



Rapid Rollout, Maximum Uptime

Case Study

BuildMonkey

<http://www.buildmonkey.com>

Table of Contents

Table of Contents.....	2
Summary	3
The Project	4
The Problem	5
A Moving Target.....	5
Business Demands	5
Configuration Management	5
The Solution.....	5
A Moving Target.....	5
Business Demands	6
Configuration Management	6
The Result	8
About BuildMonkey	9

Summary

This large oil company maintains a sizable server infrastructure to support its considerable trading activities. This infrastructure is housed in multiple datacenters throughout the world.

The ability to deploy new server infrastructure quickly is important in such a revenue-critical function, as is the ability to maintain synchronicity between all of the datacenters and DR infrastructure.

This case study demonstrates how the company was able to massively reduce the time, and cost, of commissioning new infrastructure and how it was able to roll out patches and applications with the minimum of effort and maximum confidence in results.

The Project

Maintaining large numbers of servers in distributed datacenters to support global trading activities can be costly.

The very nature of the business function that the servers are used for demands 24x7 support and maximum uptime. Hardware and application support from vendors is always contingent on having the latest service packs and patches applied.

The challenge in environments like this is to prevent patching becoming a full-time activity, and to ensure that new servers are built with the correct patch levels to comply with vendor support requirements.

The Problem

A Moving Target

Patches and service packs are released continuously by hardware and software vendors, and it is a requirement of ongoing support contracts that supported servers are kept up to date.

In an environment where there are many servers to support, this can create a situation where patching becomes a continuous activity – as soon as all the servers are patched then the job needs to begin again with the latest patches.

What, then, is the baseline? What are the correct patch levels for the servers, and how to ensure that they are correctly patched?

Business Demands

The business, based on large trading volumes, measures downtime in “*\$millions per second*”.

At the same time, they:

- require new functionality from new versions of applications which need to be deployed;
- demand that support is available 24x7;
- care absolutely nothing about server patch levels or other such low-level trivia;

The business wants the infrastructure to work, all the time, to support its trading activities. Achieving this is the problem of those charged with I.T. Support.

This presents a considerable challenge to the I.T. Support function to ensure change without risk.

Configuration Management

When new servers need to be commissioned, what versions of Operating System and applications are to be installed? Where are these located? Who keeps the list up to date?

The Solution

A Moving Target

Goal: Keep all servers at the appropriate patch levels for support contracts, and security requirements, without patching becoming a constant activity.

By engaging deployment specialists, such as BuildMonkey, to manage this activity, the customer was able to massively reduce their cost and complexity through the creation of automated patch management infrastructure:

- automatic detection of servers that did not comply to the correct patch levels, and integration with existing network monitoring infrastructure;
- the ability to roll out patches across all servers simply by placing a tick in a box;
- Simple to use interface to de-skill the process of patch management to being that of a low-level operations function;

The only human intervention now required for patch management was that of approval – something that cannot (and should not) be automated.

Business Demands

Goal: Ensure that maximum uptime, as defined in SLAs, is achieved whilst ensuring that all necessary patches and service packs are applied.

Through the creation of automated installation and upgrade mechanisms, the company was able to rapidly build staging environments where upgrades and patches could be applied and rigorously tested.

By having this networked build and deployment infrastructure, it was possible to build any server – to any specification – in a matter of minutes.

All necessary testing could be performed very quickly, to enable upgrades to be approved and implemented within the timeframes that the business demanded – whilst still maintaining maximum uptime.

Configuration Management

Goal: Ensure that all OS and application versions were correct, and that all software was consistent with the approved versions.

Through the creation of a networked “filling station”, a central repository for approved package and patch versions was available. This ensured that the correct versions of all software could be installed in minutes – and any deviations could be easily detected and rectified.

Storing all of this atop a well-designed SCM infrastructure (Clearcase in this instance) ensured that historical versions were available (e.g. to provide the ability to rebuild a server to the exact specification that it was built to six months ago).

BuildMonkey. Because deployment is a thief.

Through the deployment of a simple-to-use interface, this activity was again de-skilled and became a low-level operations function.

BuildMonkey. Because deployment is a thief.

The Result

By using buildMonkey software and services, the global oil company were able to successfully manage all of their server infrastructure worldwide to support their considerable trading volumes.

Massive savings in cost and time were attained through the de-skilling of complex processes.

Quality levels, and delivery against SLAs, were improved through the implementation of automated processes to reliably detect and remedy any deviance from policy.

BuildMonkey. Because deployment is a thief.

About BuildMonkey

BuildMonkey are the market leaders in Build, SCM and Deployment.

Formed in 1999, and with many Fortune 500 and FTSE 100 blue-chip clients, we are the original and the best.

All of the concepts described in this paper have been encapsulated in a suite of off-the-shelf tools and associated processes to facilitate rapid implementation of the Best Practices set out in this paper.

We are passionate about solving the problems which plague software development. We know that, with very little effort, it is possible for software to be delivered on-time, on-budget and free of defects.