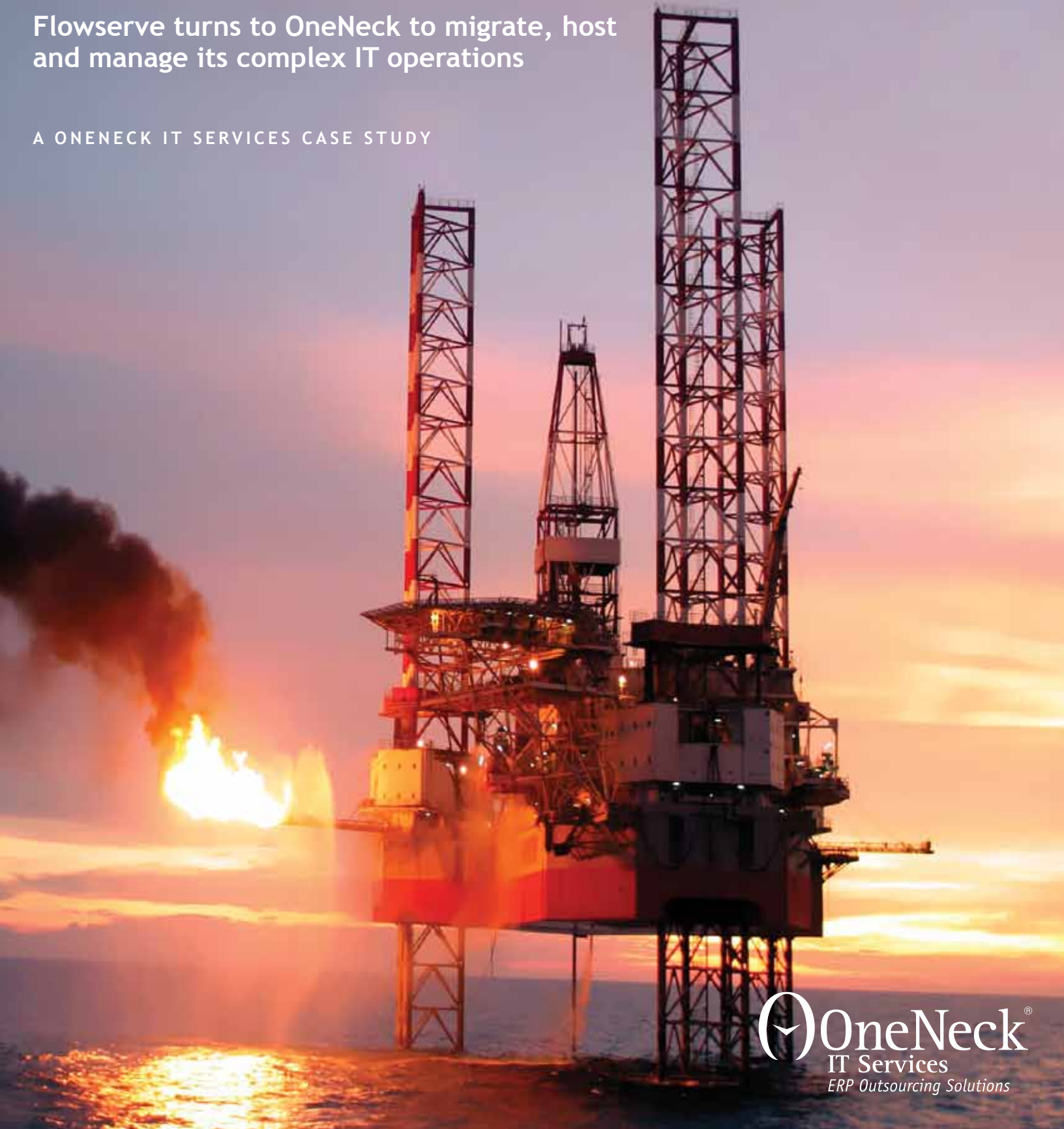


# Transitioning A Large-Scale Data Center

Flowserve turns to OneNeck to migrate, host  
and manage its complex IT operations

A ONENECK IT SERVICES CASE STUDY





## The Company

Flowserve Corporation is recognized as one of the world's premier providers of flow management systems. The company supplies pumps, valves, seals, automation and services to the power, oil, gas, chemical, and other industries. Flowserve's solutions help manufacture, refine and deliver some of the world's leading consumer products, including drinking water and fuel. Based in Irving, Texas, Flowserve's 15,000 employees help customers in more than 70 countries around the world. Its 2008 revenues reached \$4.4 billion, making them number 513 on Fortune's annual ranking of America's largest corporations.

Flowserve was formed by a merger in 1997, but its heritage dates back to 1790. Recent milestones include moving more than 13 billion barrels of oil through the Trans-Alaska Pipeline, helping to restore the Florida Everglades, irrigating 13 million acres of farmland in Bangkok, Thailand, assisting with flood control in the Netherlands and ensuring that Las Vegas, Nevada, has more than enough water to support population growth.

## The Challenge

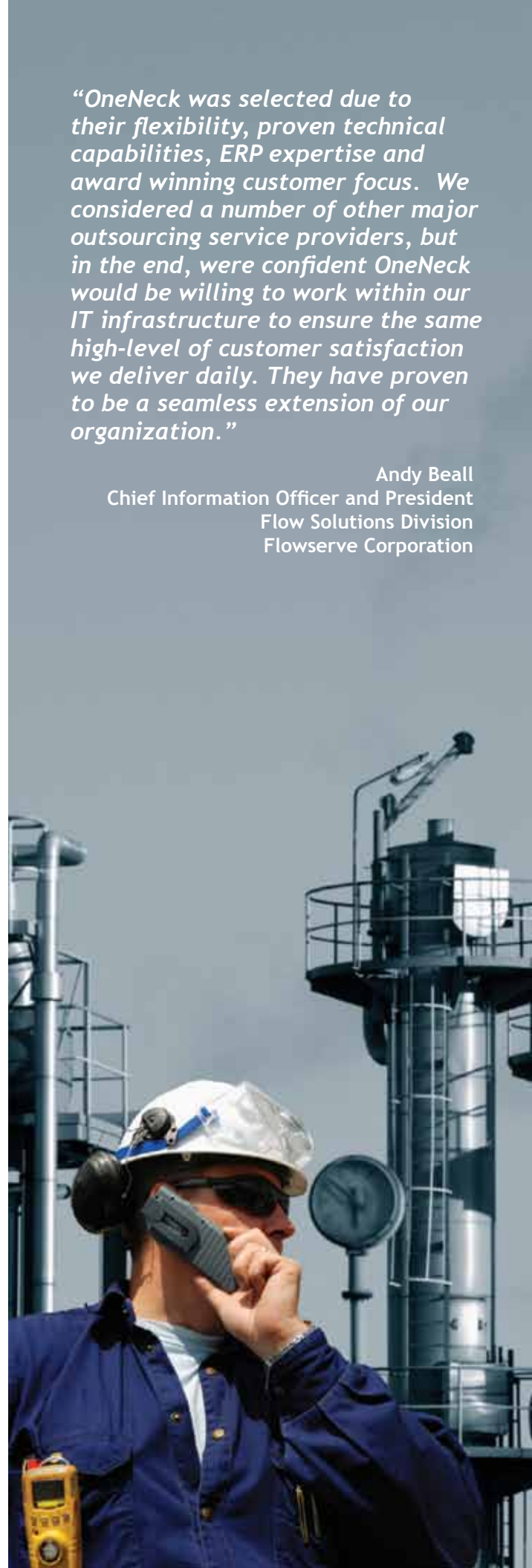
Flowserve's IT operations were not keeping pace with the company's growth. Inadequate computing and insufficient IT support infrastructure began to impact Flowserve on a daily basis. After careful analysis of several providers, the company's executive team decided to outsource the management and hosting of its IT operations to OneNeck.

The size and complexity of Flowserve's operation presented many challenges for OneNeck. The project involved consolidating and migrating Flowserve's data center, which was located in Orem, Utah, to OneNeck's data center in Gilbert, Arizona. The massive transition was further complicated by numerous systems with complex interrelationships, little available documentation and limited internal staff with knowledge of the IT environment.

Flowserve's IT operation included 209 systems — 132 in production and 77 in development environments — using Windows, Linux, Unix and appliance operating systems. Plus, Flowserve managed over 60 application environments, 30 terabytes of disk storage (SAN, NAS, NFS, CIFS) and 30 physical racks. Most important, however, the project involved minimizing the impact to Flowserve's 10,000 global users and eliminating any negative effect on the company's substantial revenues. Flowserve's outage tolerance was extremely limited.

*"OneNeck was selected due to their flexibility, proven technical capabilities, ERP expertise and award winning customer focus. We considered a number of other major outsourcing service providers, but in the end, were confident OneNeck would be willing to work within our IT infrastructure to ensure the same high-level of customer satisfaction we deliver daily. They have proven to be a seamless extension of our organization."*

Andy Beall  
Chief Information Officer and President  
Flow Solutions Division  
Flowserve Corporation





## The OneNeck Solution

Managing a transition of this magnitude requires expert planning and execution. When the project started, OneNeck used its considerable expertise and field-proven processes to develop an end-to-end transition plan. First, OneNeck performed an IT assessment by verifying and validating system inventory and configuration. Then, they developed a system documentation catalogue to better understand Flowserve's applications. The team needed to grasp each application and the respective dependencies to be able to assign transition groups and sequences to each host system. In turn, they did the same for Flowserve's infrastructure components.

Given the risk associated with such a large-scale migration, OneNeck adopted a phased, rather than single move, approach. Using this strategy, OneNeck could perform system consolidation or virtualization to reduce risk. They could also work out any issues by transitioning test and development systems before production systems.

After the planning portion of the project, OneNeck began staging. They performed backup and recovery validation, re-racking, IP changes, WAN simulation and disk conversion. With staging complete, OneNeck could begin the Utah to Arizona move. Every aspect of extracting, loading, transporting and delivering Flowserve's equipment to OneNeck's data center was carefully overseen and managed to plan. During the post-move phase, OneNeck handled physical set-up, system start-up, networking, disk/restore, database start-up, application start-up, verification/RFU, backup and monitoring.

In addition to the critical transition plan, OneNeck used the following strategies to reduce risk and ensure a successful migration:

- Included business stakeholders in the planning process. Throughout the project, OneNeck collaborated with, and solicited input from, various Flowserve staff. This collaboration resulted in a combined team effort.
- Used initial 'less critical' system transitions to verify and validate the process.
- Minimized outages for critical messaging and ERP solutions to several hours using "swing" technique whereby alternate hardware was deployed enabling replica systems to be set up and verified in advance, reducing the final transition to a logical data restore. The original hardware was subsequently transitioned and repurposed.
- Consolidated and transitioned host systems in racks to save time.
- Used disk "swing systems" to relocate disk volumes.
- Leveraged virtualization technology to move virtual systems (disk vmotion).
- Used custom critical transportation, such as trucks and cranes specializing in moving IT equipment, as well as private jets to transport staff.

# The Benefits

Prior to enlisting OneNeck’s services, Flowserve’s IT operations were falling short in many areas. However, OneNeck turned the situation around with a successful data center transition, followed by expert hosting and management. OneNeck tackled the following challenges and delivered measurable improvements for Flowserve.

Before OneNeck	After OneNeck
Insufficient data center power with high risk of failure	Industrial grade environmental systems to minimize risks from electrical power failure
Limited or no systems documentation	Full systems documentation
Backups failing 50% of the time on average	Fully redundant backup solution with zero percent failure
Unplanned main ERP system outage at least once a week	99.99% availability
Daily ERP performance issues	All ERP performance issues resolved for thousands of global users
No standardized change management process	All IT changes documented and communicated
Mix of employees, independent contractors and consulting firms with conflicting priorities	Single point of accountability and aligned priorities
No centralized issues tracking and workload management systems	Continuous improvement initiatives documented and executed
IT audit issues	Dramatic improvements in audit results by relying on OneNeck’s SAS 70

Through detailed planning, proven processes and hard-to-find expertise, OneNeck met all of Flowserve’s transition timeline objectives and business cycle criteria. Flowserve can focus now on strategic initiatives instead of perpetual fire-fighting IT issues. And, the company can leverage its stable and scalable computing environment to support strategic initiatives and grow their business.

*“We selected OneNeck because they offered a true partnering model. Since we brought them on board, we’ve considered them an extension of our internal IT team. Initially, they managed a very large and extremely complex data center transition without a hitch. And now they’re applying their proven processes and expertise to our application and infrastructure support. Thanks to OneNeck, we’ve enjoyed system stabilization and efficiency we’ve never seen before.”*

**Mike Wald**  
Vice President – IT, Flow Control Division  
Flowserve Corporation



## Company Facts

Organization	• Flowserve Corporation
Industry	• Industrial Flow Control Systems
Business Challenges	<ul style="list-style-type: none"> <li>• IT operations not supporting business initiatives</li> <li>• Inadequate in-house IT resources</li> <li>• Lack of system processes and documentation</li> <li>• High level of failure points and deficient network design</li> </ul>
User Environment	<ul style="list-style-type: none"> <li>• 10,000 Users</li> <li>• 287 Locations Worldwide</li> </ul>
Application Environment	Over 60 application environments including: <ul style="list-style-type: none"> <li>• Oracle ERP</li> <li>• Baan</li> <li>• Great Plains</li> <li>• Lotus Notes</li> </ul>
Technical Environment	209 Systems including: <ul style="list-style-type: none"> <li>• Windows</li> <li>• Linux</li> <li>• Unix</li> <li>• Appliance Operating Systems</li> </ul>



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