Shell

THE BIG MOVE: MISSION COMPLETED.

Houston is well-known for historic missions. Since 1961, it has been the hometown of the Lyndon B. Johnson Space Center, responsible for the flight control of US manned space programs such as the Space Shuttle, Apollo and Gemini. State-of-the-art technology, years of training and rigorous preparations were the critical success factors of more than 160 space flights.

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TODAY, THERE ARE STILL MISSIONS, involving state-of-the-art technology and rigorous preparations, that begin in Texas's largest city and end with a smooth landing. One of them is a recent project undertaken by T-Systems for Shell.

According to the 2015 list of the Fortune 500, Shell is the fifth largest company in the world. German ICT specialist T-Systems has been providing Shell sites worldwide with computing power and storage since 2008 – operating from four global data centers in the Netherlands, Malaysia, the US and Germany.

However, Shell's US data center, the Houston Information Center, was built over forty years ago. A good reason for Shell, being a frontrunner in the use of advanced technologies and innovative approaches, to move to a new, more advanced datacenter. In March 2014, a contract was signed for the Houston Information Center Accelerated Exit Migration Program, the largest undertaking of its kind in the company's history.

OVER 100 BUSINESS-CRITICAL SERVICES, BUT ONLY ONE DESTINATION

For the relocation to the Houston West data center, clearly defined goals were set out by Shell IT leadership: no disruptions, no downtime, and Phase 1 was to be completed by the end of June 2015. T-Systems' task was not just to migrate IT resources to the new facility, but also to decommission and dispose of old property. This comprised no less than 69 business-critical IT application landscapes and more than 7,000 IT infrastructure assets (e.g. servers, storage filers, switches and racks) on 3,500 square meters of raised floor space. It was a huge project, so John Kiest, Program Director at T-Systems USA, put together an international team comprising as many as 220 T-Systems professionals to master it. As Kiest reported, "The goal for Phase 1 was to move all Shell business-critical landscapes and 102 essential IT services. This included applications for oil production and energy trading, and two large SAP landscapes for Shell's Downstream Business Unit in the US".

15 months and over 7,166 man days later, Kiest and his team proudly declared this mission accomplished. "Apart from two agreed step-outs, we completed the migration of all Shell's business-critical services to the new data center on time, and under budget – without a single situation," said Kiest. "Our success was down to careful planning, and close collaboration and communication among all participating teams – including Shell and our technology partners, HP and AT&T." Each and every step was carefully defined, agreed, prepared and executed – with a consistent focus on always making sure someone was in charge, and someone was on duty. This included weekends, when all stakeholders had to maintain sufficient resources available 24 hours a day to be able to intervene if there were complications.

NEW VIRTUALIZATION TECHNOLOGY MINIMIZES TESTING EFFORT

Phase 2, which began immediately after Phase 1, was no less strenuous: the business-critical IT landscapes had been successfully migrated. But now the team had to tackle the remaining systems and decommission and dispose of the legacy assets in order to allow Shell to put the building on the market for sale. "This meant handling an IT volume that was five to six times greater. But we had far less time than in the previous phase," emphasized Kiest, "So we thought about how we could migrate the maximum number of services with the leanest possible process." They were assisted by an innovative network technology recommended by T-Systems colleagues in Germany: Cisco's Overlay Transport Virtualization. This solution enabled T-Systems to migrate 550 virtual servers for a huge number of dynamic cloud hosted applications and services without having to change their IP addresses. This greatly reduced the effort on Shell's part for testing and approval. "It was a great piece of advice and a prime example of our transatlantic teamwork, as well as our strong partnership with Cisco," attested Kiest.

The move went smoothly. But there was still work to be done. The T-Systems team turned to the hardware that was now surplus to requirements – 7,200 servers, storage devices, tape libraries, server enclosures and other assorted IT assets. They had to be either sold off or disposed of. By late June 2016, this task too was completed, and the legacy data center was handed over on time to Shell's Real Estate department.

A MIX OF TRANSITION AND TRANSFORMATION

T-Systems has now been hosting Shell's IT infrastructure from the new data center for around six months. And as John Kiest explained, this has done more not just improve the availability and reliability of IT services: "This was not just a simple transition. It meant transforming infrastructure, improving efficiency and being ever ready for future changes and technology disruptions. For example, we implemented new storage networks and tape libraries, and we shifted a large number of applications from the legacy DCS 2.5 to the new DSC 3.0 platform." Shell Supplier Services Platform Manager Doutie Nadema also expressed her appreciation for the results of the migration program: "The Houston IC Accelerated Exit Migration Program was a very successful one, especially from a business continuity point of view."

The complicated multi-million migration was completed without any major mishaps. That's an excellent outcome for Shell and T-Systems. As Kiest pointed out, "From the outset, we had said that failure is not an option. And through constructive cooperation, transparent governance and communication at all levels, plus clearly defined escalation paths, we succeeded." It is an experience that should stand T-Systems and Shell in very good stead with other programs of this type. High on the agenda is the ongoing activity to consolidate data center resources in three large data halls in the European Global Data Center in Amsterdam, the Netherlands.

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Self-check

You want to move to another data center? Here are some things you should do:

1. *Identify all the hardware and software that needs to be moved from one data center to the other.* ☐
2. *Determine site architecture and design specifications based on the "footprint" required in the new data center.* ☐
3. *Complete capex approvals for required new equipment.* ☐
4. *Submit procurement requests.* ☐
5. *Complete high-level design for the migration architecture and processes based on the estate to be moved.* ☐
6. *Commence migration planning based on the high-level design and the agreed-upon migration paths.* ☐
7. *Begin staffing up the teams (as required) to do the migration work.* ☐
8. *Complete migration wave planning and set it out in writing.* ☐
9. *Begin to execute migration waves in accordance with plan.* ☐
10. *As waves complete, do the necessary logical and physical decommissioning and disposal.* ☐

Contact us for more information
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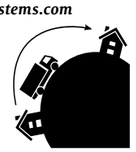
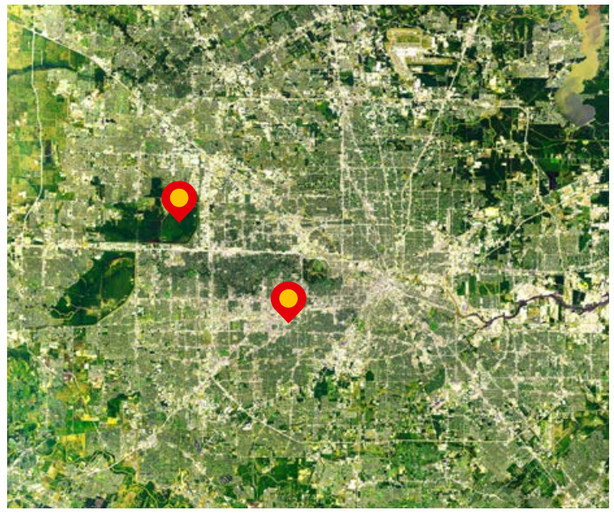


The Houston West data center: new home of Shell's IT.



"THE HOUSTON IC ACCELERATED EXIT MIGRATION PROGRAM WAS A VERY SUCCESSFUL ONE, ESPECIALLY FROM A BUSINESS CONTINUITY POINT OF VIEW."

Doutie Nadema,
Manager Shell Supplier Services Platforms and ITSO representative on ERP LT (Run Better)

7200
Servers storage devices and other hardware assets had to be decommissioned

69
IT landscapes had to be migrated from the old data center to the new one

220
professionals of T-Systems managed the big move

Photos: F1online, JRobbins Photography