RF CODE

Case Study

Vodafone Driving Down Costs, Eliminating Over-provisioning, and Delivering Savings to the Bottom Line with RF Code

Client Profile

Vodafone Group (Vodafone) is one of the world's largest mobile communications companies by revenue with approximately 419 million customers in its controlled and jointly controlled markets (as of December 2013). It currently has equity interests in over 30 countries across five continents and approximately 50 partner networks worldwide.

Vodafone's global network supports both consumer and business customers and the organization prides itself on its innovative approach. In 1991 it enabled the world's first international roaming call and in 2002 it set a new standard for mobile communications with Internet access on the move, innovation it continues to display today. For more information visit http://www.vodafone.com.

vodafone

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Rannel de Cock, Vodafone

Objective: Unify ERP, Asset Lifecycle Management and Power Infrastructure for Greater Data Center Sustainability and Control

Global telecom operators are, as Light Reading analysts have noted[1], "In the midst of transforming their data center environments. In response to an increasingly competitive landscape, they are deploying new technologies that they expect to provide benefits in terms of lowered costs and increased revenues. The data center is an increasingly strategic asset for telecom operators." - Roz Roseboro, Senior Analyst

As a strategic innovator dedicated to its customers and investors, Vodafone Group's senior IT team is continually re-evaluating its global IT estate to ensure maximum operational efficiency, long-term commercial value and internal accountability.

Vodafone Netherlands was the latest target in this ongoing corporate process. The organization's 5.3 million consumer and business customers expect Vodafone Netherlands to deliver an always-available, data-rich network.

The executive team realized that to maintain these renowned service levels and to ensure compliance with emerging EMEA data center regulations and directives, an advanced Asset Lifecycle Management solution would be required to manage its growing inventory of critical IT and switch equipment.

"We have very stringent financial and IT availability objectives, and our data centers play a significant role in defining the success of our customer promise," said one senior executive at Vodafone. "This is why deploying a highly automated data center management system was considered an essential change."

Rannel de Cock, Technical Manager BIM – VF data centers, was appointed as the deployment lead and charged with identifying a monitoring and management solution capable of meeting Vodafone's strategic objectives and audit requirements.

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1 "Data Center Transformation: A Necessity for Telecom Operator Success" http://www.lightreading.com/data-center/cloud-strategies/data-center-transformation-a-necessity-for-telecom-operator-success/a/d-id/711651

Challenges

With a services portfolio that is constantly changing, Vodafone's data infrastructure must support the organization's IT initiatives and the innovation it is renowned for. A recent example is Vodafone's consolidation of all disparate Business Intelligence (BI) units into a single, centralized department, the Business Intelligence Competency Center (BICC). Large-scale projects like this require agile, always-available data centers capable of coping with the rapid speed of change that occurs within organizations of Vodafone's size.

Vodafone decided that its desired level of business intelligence would only be possible if precise operational and asset data was integrated with the organization's enterprise resource planning (ERP) software.

The immediate challenge for De Cock and his team was to identify a suitable data center management solution that could integrate with SAP, as well as address the IT and operational concerns present across its ten facilities. These included:

- Business and IT complexities – the need to interface and connect numerous business units and IT systems including Vodafone's Finance and Business Intelligence teams, ITIL management systems, Quareo Asset Reconciliation, the Network Operations Center (NOC), and Vodafone's managed services partner Ericsson
- Executive accountability and report variety – financial impacts, used and future capacity projections, density metrics, power usage per rack, AC PDU measurement, BOM asset reconciliation
- A diverse asset estate – being able to track, monitor and analyze all IT and network elements in a rack in real-time, as well as monitor Vodafone's infrastructural systems (power and cooling), despite hundreds of rack designs from multiple equipment vendors
- Data complexity – finding a solution with two-way read/write functionality
- Environmental requirements – a solution that would support future environmental monitoring
- Financial compliance – meeting set IT cost limits for any deployed IT solution
- Deployment timeframe – short pilot and deployment schedules

Selection Process

De Cock's evaluation process involved RF Code, a number of DCIM vendors, passive asset tracking systems and other facilities management solutions. He began by searching for a solution that would integrate with SAP One Inventory, the organization's ERP software.

This led him to RF Code, known for its flexible framework and an open-architected middleware layer that would allow simple integration with a number of other enterprise software solutions, including ERP and Business Intelligence software, BMS (Building Management Systems), and DCIM platforms (Data Center Infrastructure Management).

De Cock visualized RF Code automatically downloading Vodafone's SAP database, populating it with real-time asset data and then uploading that data back into the system. This data could then be sent to other systems to enrich their own databases and maximize the value Vodafone would receive from the RF Code solution.

This powerful integration was a major differentiator for De Cock when assessing RF Code's suitability, as were the integrations with legacy systems: Server Technology's Sentry Power Manager, and Quareo's Managed Cabling in operation at Vodafone SuperSwitch locations.

Other reasons for selecting RF Code were the ability to assign single sensor functionality to other integrated systems, the minimal technical requirements (software, databases, servers, operating system, readers and sensors), and the overall ease and speed during deployment.

Proof of Concept

Vodafone initially deployed RF Code at its Houten Netherlands site, a proof of concept (POC) designed to reflect the everyday demands of Vodafone's data centers. This included real-time monitoring of 250 assets experiencing the same rate of change and movement as a live environment. Data from all integrated sources was collected over a three month period, normalized and then presented to Vodafone senior management as a business case for the solution.

The pilot clearly demonstrated to the finance and business intelligence teams the high levels of automation, efficiency and financial reporting that could be achieved with RF Code. Once approved, Vodafone began deployment across all its Netherlands locations.

De Cock said, "The RF Code support team were extremely prompt at responding when we had queries. Once they had conducted a full inventory, they delivered on their proposed pilot within the timeframe they originally outlined. The whole process took three months from design finalization to deployment."

Value of the Solution

From the moment an asset enters the facility to the moment it is retired, Vodafone has a precise, real-time trail of the condition, location and current value of each asset within the entire IT estate. This provides insurmountable digital proof for compliance purposes and allows Vodafone to focus on delivering operational and financial efficiencies.

This asset data is gathered, read, processed and fed into a range of data sources for uses that include:

- Asset Lifecycle Management – real-time evidence of every change, movement, request and audit; tag-to-asset association; quick access to executive dashboards; instant search and reporting tools; tracking all equipment, such as servers and blades
- Power management – support for APC PDU management and Schleifenbauer AC-PDU systems
- Cooling management – air-conditioning power management
- Floor space management – asset visualization within the Vodafone Technology Center
- Rack space management – efficient capacity planning and density management
- Environmental control – temperature and humidity monitoring

The above is made possible because of RF Code's unique bi-lateral data flow and an instrumentation layer that generates and sends asset data between all integrated software.

Results

Vodafone has used RF Code asset data to deliver a number of immediate positive outcomes. The IT team is maximizing floor space to increase capacity and with more effective capacity management comes the ability to safely increase rack density without any risk to availability or equipment. This improved utilization of cooling, power and space prevents costly over-provisioning, which translates to clearer financial planning and money back on the bottom line.

In practice this has the Vodafone Building Infrastructure Management (BIM) team occupying an administrator role alongside the SAP team, while other business functions leverage RF Code data and reports to support their own decision-making. These include:

- Vodafone Finance Team for financial accountability and strategic planning - new assets, decommissioned assets, depreciation rates, power and cooling costs, location summaries
- ERP (SAP) integration – accurate material and inventory control, enrichment of other systems
- Ericsson Power Team – effective threshold management (30% - 5kW) - monthly power per rack reports, voltage fluctuations, other energy considerations
- Ericsson Field Engineering Team – more effective management by Ericsson Power Team
- Information Technology Infrastructure Library (ITIL) interfacing - ensures SLA compliance and that Vodafone achieves the right levels of competency
- Network Operations Center (NOC) – PDU power alarms for disaster avoidance
- Asset reconciliation with Quareo – BOM reports and the automatic export of Quareo and RF Code data into the central RF Code system - asset differences are identified, an email report is sent to the BIM team before assets are attended to, then the data is updated in Quareo automatically

Another significant advantage has been Vodafone's overhauled audit process. Previously this was carried out manually every six months and required three employees. With RF Code this has been reduced to a single audit once a year across all sites.

Due to greater audit efficiency, costs have been halved – a projected saving of nearly $200,000 over five years. Those employees previously involved in audits have been redeployed to other projects to further reduce costs, save time and deliver a more tactical workforce.

"With RF Code we know how much assets cost, their rate of depreciation, where they are, where they move to and their current condition. It is a liberating position to be in, especially for our finance department and Business Intelligence teams.

This value translates through to risk avoidance and disaster prevention as we have complete peace of mind and the data to support it. Our data centers are protected 24/7 while every department is kept informed of the status of our facilities and the equipment within it," said De Cock.

The entire deployment was scheduled to last seven months and was delivered on time and in budget.

Next Steps

Vodafone plans to replicate its successes with RF Code Asset Lifecycle Management globally, beginning with Germany and the United Kingdom.

Prompted by regulations like the EU Energy Directive and the asset-related benefits, Vodafone has begun deploying RF Code Environmental Monitoring at its Eindhoven site to measure temperature, humidity, airflow, fluid detection and other key thermal metrics responsible for facility sustainability. Once the Eindhoven rollout is complete, Vodafone aims to deploy the solution across its entire Netherlands portfolio.

About RF Code

RF Code is the world's fastest growing, leading provider of distributed IT environmental monitoring and asset management solutions. Its patented tracking and sensor technologies are deployed by many of the Fortune 250 and help manage the global data centers of some of the largest IT service providers. RF Code is an essential component of the asset management, risk and compliance assurance and automated control systems in healthcare, IT services, industrial supply chains and natural resources/oil & gas industries. RF Code is a privately held company with investors including yet2Ventures and Intel Capital. The company is headquartered in Austin, TX, with offices and partners in the UK, EMEA, Australia, Asia and South America.

Large enterprises, such as HP, CME Group, GE, Dell and Bank of America, have already begun experiencing substantial ROI through the deployment of RF Code's automated, accurate real time monitoring systems and are continuing to see positive results through expanded deployments. In addition, global market leading DCIM suppliers, including IBM, CA Technologies, and iTRACS CommScope have eagerly integrated RF Code's real time environmental and asset monitoring technology into the foundation of their systems. The unmatched accuracy of the data RF Code delivers enables these DCIM suppliers to gain a competitive edge in the market surpassing the value of any other systems currently available. www.rfcode.com.

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