PUT DATA TO WORK AND REDUCE I.T. RISKS WITH AUTOMATION AND INTEGRATION

SOLUTION BRIEF

IoT with Intel Inside®
www.intel.com/iot

IT Process Automation from Red Hat:
www.redhat.com/en/explore/next-gen/automate-it

INTRODUCTION

Red Hat and Intel invest significantly in making IT more capable, while reducing overhead. One key to this effort is automating low-value tasks such as collecting wellhead data, monitoring operations and equipment, and manually deploying IT resources. Likewise, better integration of data into various systems reduces or eliminates the need to move, copy, and transform data.

Solutions from Red Hat and Intel help automate tasks and make data accessible wherever it's needed, without customized connectors and adapters. That simplification is sometimes referred to as the integration of things, in a play on the buzzword "Internet of Things."

SOFTWARE SOLUTIONS FROM RED HAT

ELIMINATE DATA MISMATCHES

Data coming from disparate sources such as sensors at wellheads, pipelines, and storage facilities is typically stored separately and formatted differently. Using the data typically requires it to be transported, copied, and transformed, adding complexity. Red Hat® JBoss® Data Virtualization provides an alternative by allowing multiple data sources to be treated as one, delivering any data to any solution in the enterprise.

ACCELERATE RESULTS

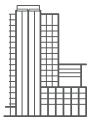
Results can be derived even more quickly by holding the entire data set in system memory with Red Hat JBoss Data Grid. Data-intensive applications can deliver results faster than with conventional methods, because there is no need to continually read source data or write results to storage.

ADD STRUCTURE TO THE PROCESS OF CHANGE

Many oil and gas companies are examining the free exchange of data and functionality between systems using APIs. Development organizations are looking ahead to architecting modular applications using microservices and making APIs an initial part of applications as they are delivered, rather than retrofitting them later. As APIs proliferate, Red Hat 3scale API Management helps improve their security, performance, life cycle, and governance.

AUTOMATE I.T. OPERATIONS

Too often, geologists and other technical staff must spend their time managing and maintaining IT infrastructure. Every hour spent on those support tasks is an hour when they aren't able to focus on revenue-producing activities. By automating common IT management tasks, Red Hat Ansible® puts those tasks in the background, where they belong.



ABOUT RED HAT

Red Hat is the world's leading provider of open source software solutions, using a community-powered approach to provide reliable and high-performing cloud, Linux, middleware, storage, and virtualization technologies. Red Hat also offers award-winning support, training, and consulting services. As a connective hub in a global network of enterprises, partners, and open source communities, Red Hat helps create relevant, innovative technologies that liberate resources for growth and prepare customers for the future of IT.

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HARDWARE FROM INTEL

AUTOMATE THE NETWORK EDGE

Manual data collection from sensors at wellheads, pipelines, and storage facilities is not only inefficient; it also limits the value of the data by keeping its source separate from the systems that use it. While network connectivity helps overcome these limitations, it can also result in massive floods of data across connections, much of which is not valuable. An Intel® IoT Gateway placed at the data source can automatically evaluate and filter the data, transmitting only the useful data points.

SIMPLIFY AND AUTOMATE COMPLEX NETWORKS

Maintaining network infrastructure can add complexity and time to revenue for IT projects. The computer industry has responded to this reality with technologies for software-defined networking (SDN), which allows network operators to make changes to the network programmatically, rather than having to make physical changes. This approach also allows for automating these changes, adding dramatically to network agility. Intel® Open Network Platform is a server reference platform based on open source components to help customers adopt software-defined networking more easily.

INTEGRATE MICROCONTROLLERS WITH ENTERPRISE APPLICATIONS

Intel® Quark™ processors and microcontrollers can optimize operations by means of sensors that collect data and actuators that perform simple tasks such as opening and closing valves. The code that runs on these lightweight devices typically needs to exchange data and interoperate with core enterprise applications and systems. Integration of both types of software is made simpler through the use of Intel® System Studio, which provides resources to build, analyze, and debug microcontroller software, integrating with common open source and proprietary toolchains.

STREAMLINE ADAPTATION OF LEGACY CONTROL SYSTEMS

Many oil and gas companies are working to integrate their existing control systems with newer, connected architectures that enable remote command and control, fault management, and data acquisition. This integration can be difficult, because legacy control systems were not designed for this type of connectivity. Titanium Control, a software platform from Intel subsidiary Wind River, enables customers to virtualize traditional physical subsystems, streamlining integration with updated infrastructure and workflows.