



FICO

The Advantages of 100% Real-Time Spend Analysis on Oracle EBS Cloud – Powered by FICO

Automated detection of fraud, waste, abuse and non-compliance across the procure-to-pay lifecycle using machine learning





Real-time and in-line detection of fraud, waste, abuse, and errors for 100% of procure-to-pay, travel, and expense, including purchase card transactions with FICO® Falcon® Assurance Navigator.



Significant fraud loss avoidance, reduced infrastructure costs, and rapid time to value are realized through the pre-integration of Oracle EBS on Cloud with Falcon Assurance Navigator.



FICO's AI-driven analytics identifies patterns and anomalies impossible to detect by a human auditor.



Patented rules engine technology identifies regulatory non-compliance. Choose from a library of expert business rules or author new strategies through an intuitive user interface.



Out-of-the-box optical character recognition (OCR) and text analysis significantly improve detection accuracy.

Today's competitive business environment requires organizations to do more while reducing expenses. To support this mission, Oracle and FICO have joined forces to detect and prevent fraud, waste, and abuse including non-compliance in real-time across 100% of back office spend in the procure-to-pay (P2P) cycle. The complete integration of FICO® Falcon® Assurance Navigator into the Financial component of Oracle EBS on OCI is available today, ensuring appropriate spend aided by FICO's machine learning analytics. This white paper explains Falcon Assurance Navigator's approach to leveraging artificial intelligence and automation to fight fraud and excess while improving company-wide compliance.

Finance Has a Fraud Problem

The advent of a global economy has resulted in an international supply chain with diverse regulatory requirements. Coupled with senior management directives to lower operating costs, it is not surprising that travel and expenses (T&E) and the entire P2P lifecycle have become one of the largest cost centers for back office finance while also becoming highly susceptible to fraud, waste, and abuse. Whether perpetrated by employees or payees, with or without intention, waste and excess are on the rise and include duplicate payments, overpayments, double-charges, and fraudulent submissions.

To provide sufficient depth of detail into the size of the problem, Falcon Assurance Navigator's features and benefits regarding P2P and T&E spend will be reviewed, but they also apply to P-card spend as well as vendor management.

What does travel and expense (T&E) fraud, waste, and abuse look like?

- **Unauthorized travel add-ons** — purchasing premium seating, priority boarding, beverage, entertainment
- **Out-of-pocket expense run-ups** — overclaiming tips, cabs, or other cash-only expenses
- **Car mileage and gas run-ups** — claiming additional mileage or exaggerated gas costs
- **Double reimbursements** — submitting duplicate receipts on different expense reports or colluding with colleagues to evade detection
- **Out-of-policy spending** — exceeding guidelines for hotels, meals, or per diems
- **Unused expenses** — submitting claims for items that were not used, such as canceled flights or conferences
- **Personal expenses** — passing off as business expenses personal items such as gifts



From the ACFE 2018 Fraud Report to the Nations, the following losses were presented:

- Of all cases reported in 2018 in the United States, the median loss per case was **\$108,000**.
- The same report stated that for Western Europe, the median per case loss was **\$200,000**.
- The median loss for Latin America and the Caribbean was reported to be **\$193,000**.
- In the Asia Pacific region, the median loss was the highest at **\$236,000** per case.
- The same report revealed that **89%** of the fraud cases worldwide were due to asset misappropriation with a median loss of **\$114,000** per case.
- At **38%**, this type of fraud was followed by corruption for a per case median loss of **\$250,000**.

BOTTOM LINE

The same report found that of the **2,690** cases studied by certified fraud examiners, the **total worldwide loss** due to work-related fraud totaled **\$7.1 billion USD**.

Also critical to stopping fraud – whether internal or within the supply chain – is staying compliant with federal, state, and local regulations and aiding detection of non-compliance that is difficult to find via manual discovery. Examples include health care organizations' compliance to HIPPA regulations, universities' compliance to federal grant rules, pharmaceutical organizations compliance to FDA guidelines, and retail organizations' management of tax compliance across multiple municipalities.

How to stem the tide of T&E fraud and abuse

To reduce expense fraud, it is essential to employ automation, machine learning, and strategic reporting. By

proactively identifying "risky" spend in real time, organizations can prioritize where their teams focus and prevent fraudulent, wasteful, and non-compliant disbursements before they happen.

Advanced yet explainable machine learning is an important factor in the role of identifying risky spend. As data points are defined by their place in relative permission to the total population they are a part of, the distance they are from the majority of data points will determine if they are in an "outlier" position, and therefore very much apart from the majority of related items. A good example would be the expense paid for gas. In the not so distant past, the cost of gasoline was much higher than it is today. As the majority of T&E receipts submitted

showed this marked reduction in the costs of gas over time, the model would implement machine learning to actively "learn" that the average price of gas had, on the whole, gone down. Machine learning would then move the average of the bell curve as well as those data points that would be considered outside of the norm due to being too low or too high in price. This type of self-calibration is just one practical example of machine learning within FICO® Falcon® Assurance Navigator.

These types of machine learning controls are essential to a living model that does not require constant user maintenance and updates while monitoring 100% of all expenses to reduce the costs and errors associated with manual reviews – particularly when the 2018 ACFE Occupational Fraud Report to the Nations found that internal control weakness of back office finance was responsible for nearly half of all internal business fraud.

Machine learning in Falcon Assurance Navigator also plays a part in the Business Rules Management System (BRMS). This is the area where having supervised as well as unsupervised review capabilities of both structured and unstructured data is important and necessary. Based on your finance teams risk appetite, as well as the review of your past data regarding primary types and areas of spend, rules are created based on the relative risk scores associated with your back office spend. Upon review, any rules you have created regarding an improper vendor relationship would be operationally initiated via machine learning. Any additional rules you put in place would then be applied using machine learning based on the incoming and historical data.

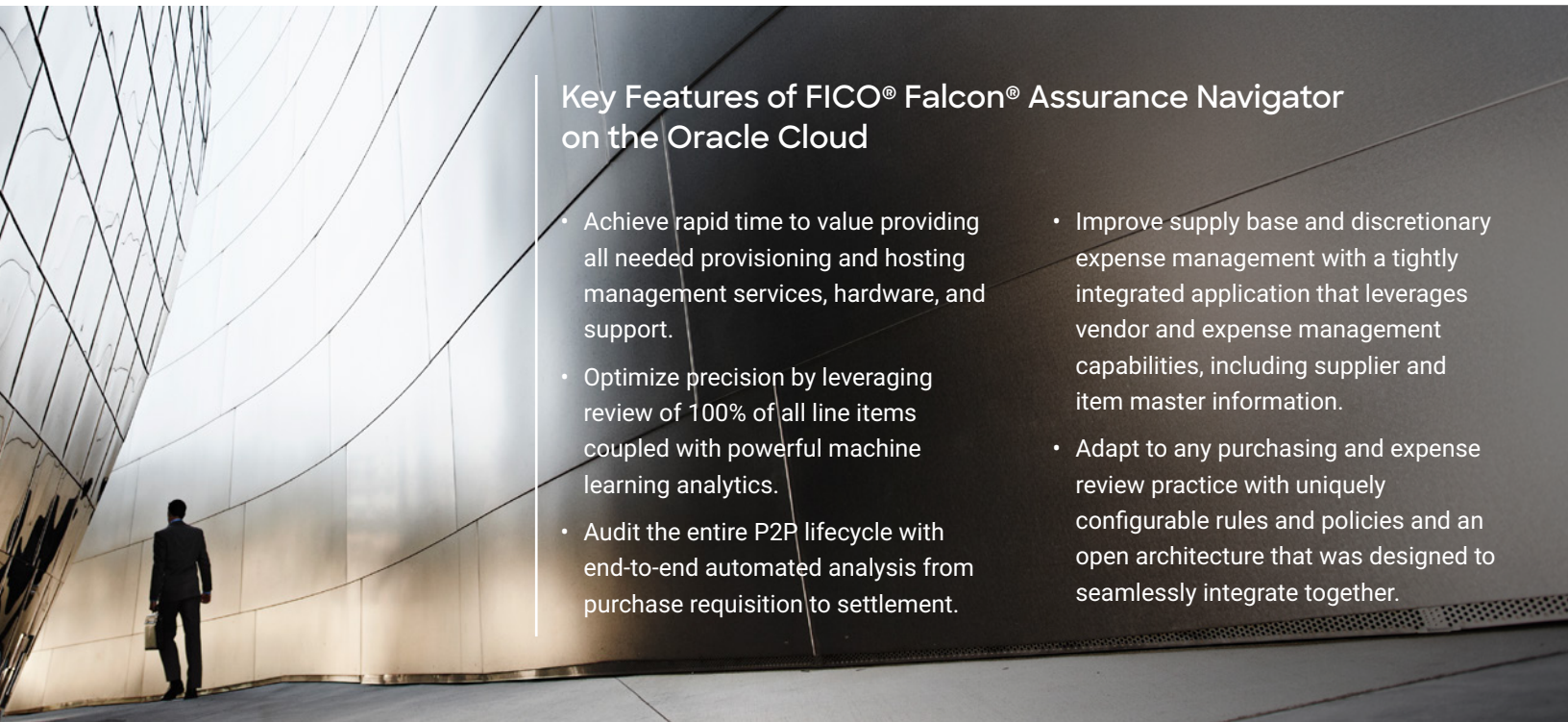
Having strong machine learning capabilities is well worth the investment. The 2018 ACFE Fraud Report found that all the anti-fraud controls they analyzed were directly associated with lower fraud losses and quicker detection. The report also found that 85% of all fraudsters studied displayed at least one behavioral red flag of fraud. With leading edge data monitoring and analysis such as Falcon Assurance Navigator, the study found users benefited from 52% lower fraud losses and 58% faster fraud detection.

FICO + Oracle: A formidable partnership against fraud

Fortunately, FICO and Oracle have partnered to offer a T&E and P2P solution that streamlines and automates back office spend management as well as operationalizing policy-driven controls in real time. With the FICO® Falcon® Assurance Navigator add-on to Oracle EBS on Cloud, your back office finance team can better manage and monitor T&E, the second largest controllable category of enterprise spend, as well as all areas of P2P spend.

As a pioneer and worldwide leader in machine learning analytics and fraud management, FICO enables continuous and real-time monitoring of spend on a local and global basis. With the FICO Falcon Assurance Navigator, organizations can now proactively and cost-effectively manage fraud, waste, abuse, and non-compliance with 100% automated monitoring of T&E, P-Card, and procurement spend.

Falcon Assurance Navigator easily integrates with your existing Oracle EBS T&E as well as P2P component on the Cloud, utilizing the same data sources and workflows to provide time to value with seamless integration and system management.

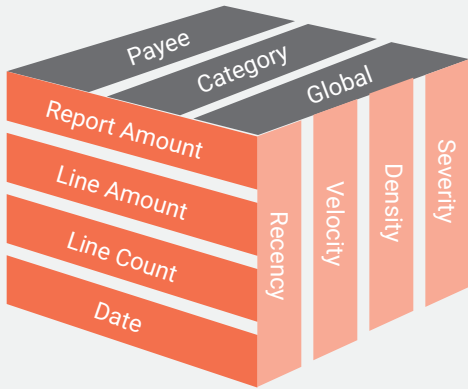


Key Features of FICO® Falcon® Assurance Navigator on the Oracle Cloud

- Achieve rapid time to value providing all needed provisioning and hosting management services, hardware, and support.
- Optimize precision by leveraging review of 100% of all line items coupled with powerful machine learning analytics.
- Audit the entire P2P lifecycle with end-to-end automated analysis from purchase requisition to settlement.
- Improve supply base and discretionary expense management with a tightly integrated application that leverages vendor and expense management capabilities, including supplier and item master information.
- Adapt to any purchasing and expense review practice with uniquely configurable rules and policies and an open architecture that was designed to seamlessly integrate together.

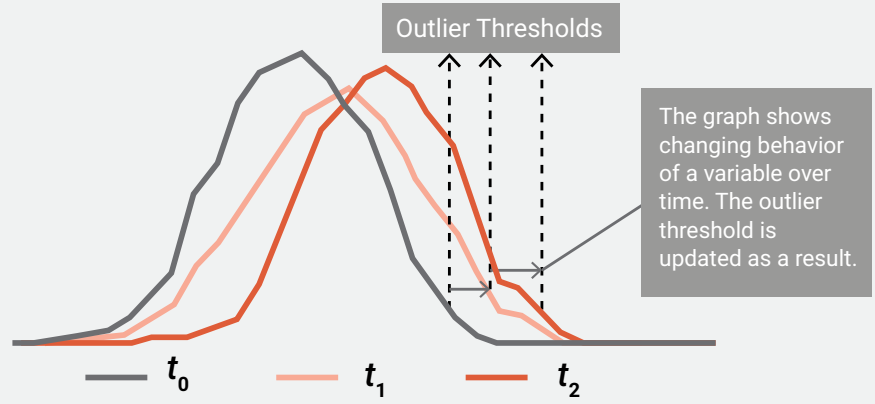
FICO® Falcon® Assurance Navigator employs advanced modeling technology that captures and evaluates T&E items that are divergent from the norm. Known as outlier detection, these divergent or significantly different transaction items are then factored into an applicable risk score.

Expense Line Item Features



Data elements are evaluated across various behavioral patterns and comparison groups.

Changing Behavior Over Time



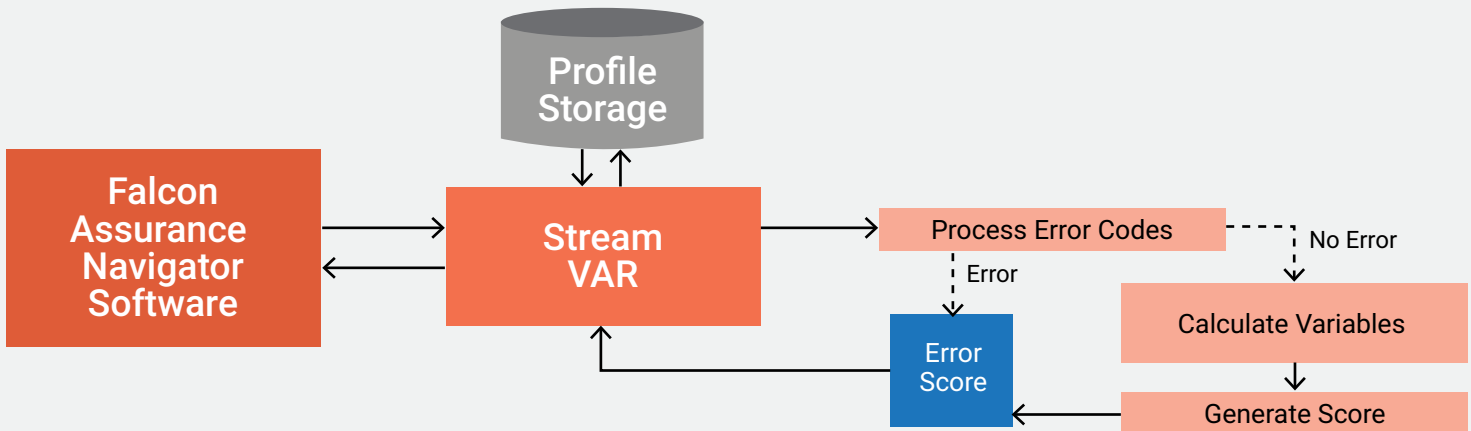
Dynamic norms estimation enables outlier detection in changing patterns.

The Falcon Assurance Navigator model architecture has been designed to provide thorough and dependable analytical analysis of 100% of applicable T&E and P2P line items. The process, as illustrated below, sends and receives past and current transaction data from the Oracle

EBS database through FICO's streaming analytics capability, which processes various variable sized data elements in a conveyor-belt-like sequence rather than in batch mode. Based on the intrinsic codes within the Falcon Assurance Navigator software, individual pieces

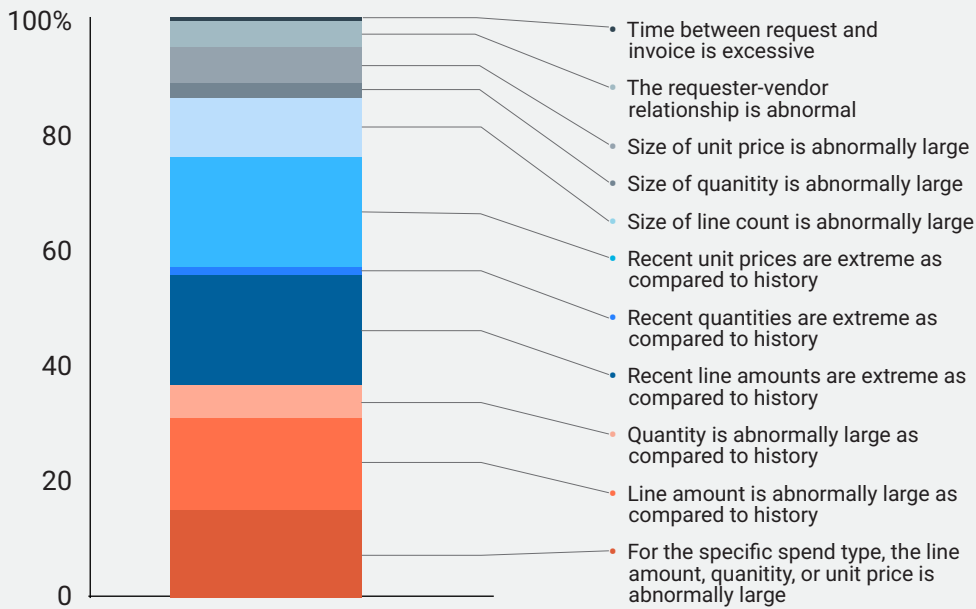
of data are analyzed to identify process errors. If there is a process error, the error is defined, scored appropriately, and returned. If there is not an error, the transactions are scored and added to the database for future profile consideration.

FICO® Falcon® Assurance Navigator Model Architecture



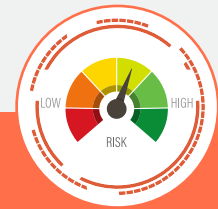
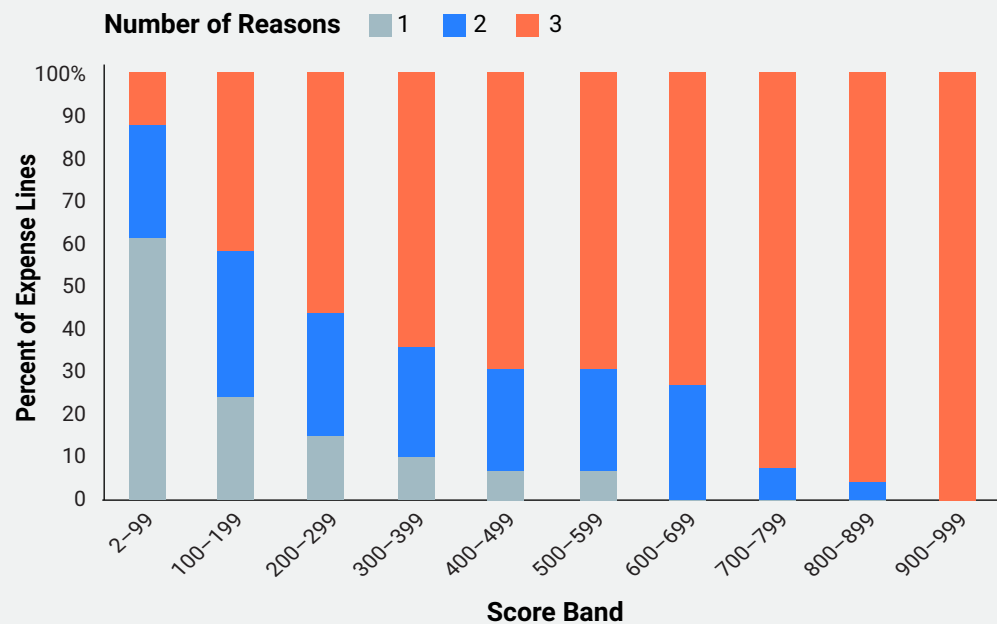
Of note, FICO's model can be adjusted for the quantitative scoring values for aberrant transaction line items as well as how many score reason codes are applied to the score.

Top Reason Code Distribution (% Total)



The top reason codes have a good distribution. All dimensions of the data are well represented.

This gives us confidence that the reviewer will focus on the right areas of the invoice line.



The percent of transactions with 3 reason codes increases with score bands. 100% of expense lines that score 900 or higher receive three reason codes.

The model assigns a higher score to transactions that look aberrant in multiple dimensions.

In FICO® Falcon® Assurance Navigator, transactional scores are combined with business rules that leverage optical character recognition (OCR) and free-text search. Falcon Assurance Navigator then identifies and tags these transaction items based on their level of risk.

These items are then automatically routed based on the assigned risk level to analyst queues based on the parameters configured in the intuitive administration interface. Cases that are flagged for manual review by your internal auditors are then investigated and adjudicated. The single pane of glass reporting module utilizes visualization in the presentation for rapid review. The review also provides keen and timely insights into areas and business rules that need improvement and reinforcement, thereby allowing auditors to take pre-defined actions – including giving direction to personnel or vendors and amending policies to optimize behavior. Furthermore, the reporting flexibility also

provides the means for ad hoc research offering quick and easy discovery, review, and audit actions.

For example, the T&E model in place at a leading Northern California university in Silicon Valley scored the report amount, line amount, line count, and date as it applied to severity, density, velocity, and recency. Additional variable considerations were applied for the status of the individual submitting the expense report. Categories and their subsequent treatment were designated for a “Young” expense report submitter, which meant they have submitted four or fewer expense reports within the year as compared to a “Mature” submitter, which had submitted four or more. The unique feature of Falcon Assurance Navigator is that all of these rules and associated reason codes can be easily modified if desired to closely match your organizational goals, needs, and circumstances.

To streamline expense processing and reduce all possible costs, Falcon Assurance Navigator is pre-integrated with Oracle EBS on the Oracle Cloud Infrastructure (OCI), thereby empowering organizations to enter expenses from any channel, mobile or otherwise. This powerful combination means your department can now control expenses on a single platform. The finance team can employ the flexible audit tools to review in real time and in-line the back office spend for deviations to your company’s rules and practices, detecting and eliminating fraud. You can now shift from reactive processes to proactively establishing automated metrics and rules along with audits and alerts. Global operations can now function on a worldwide concurrent scale, improving employee productivity and rules compliance through 24/7 access and end-to-end automation.

Pre-integrated FICO® Falcon® Assurance Navigator with Oracle EBS on the Oracle Cloud Infrastructure (OCI)



With FICO® Falcon® Assurance Navigator integrated to the financial component of EBS OCI, the advantages of cloud hosting are immeasurable. Organizations can scale their T&E and P2P management in a practical and affordable manner:

- Automated application updates and patches without requiring IT overhead or management with a TCO of 38% less than on-premises applications and 44% lower than AWS hosting.
- Immediate scaling of hardware, storage, and processing capacity without costly investments and

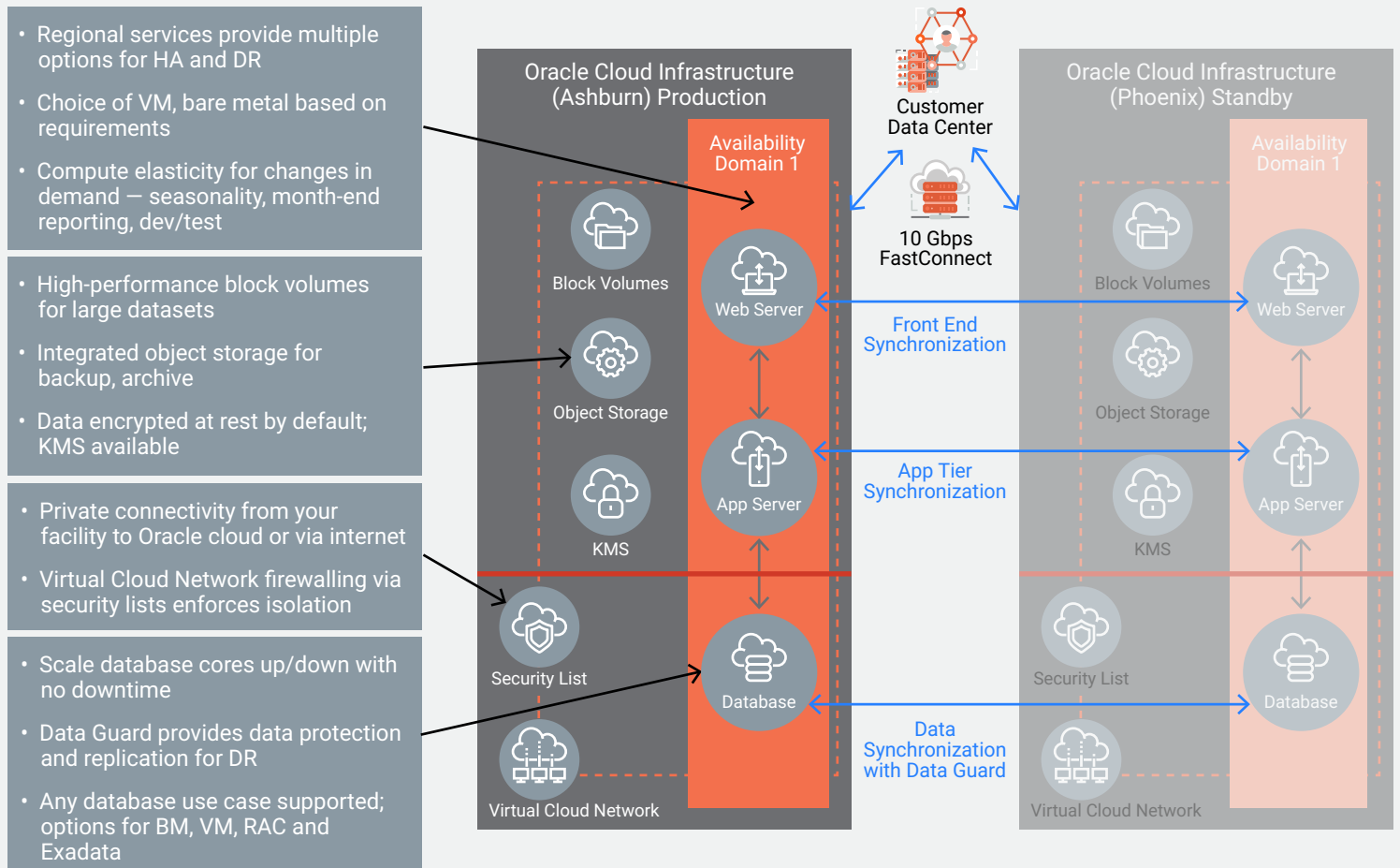
management considerations for a 20% to 30% performance improvement over on-premises supported applications.

- Reduce or eliminate the need for further IT management costs with enhanced availability, security, and control, providing 2 to 10 times faster reporting speed than on-premises hosting.
- One-click provisioning with pre-populated deployment options for easy and quick deployment, saving time and money.
- Intuitive and rapid parallel deployment from on-premises or AWS using

Oracle’s “Lift and Shift” process for on-premises backups to reduce provisioning risk and overhead.

- On-demand global lifecycle management available 24/7, providing environment elasticity for backup/restore/refresh actions as well as full backup and disaster recovery.
- Support your existing IT resources with trusted EBS OCI expertise available from myriad dedicated Oracle expert partners as well as Oracle and FICO product service support.

Enhanced availability, security, and control with FICO® Falcon® Assurance Navigator



FICO® Falcon® Assurance Navigator integrated with the financial component of Oracle EBS on OCI offers dependable ROI with a low TCO and an investment that every organization can rely on today and well into the future.

Using business rules and advanced analytics, Falcon Assurance Navigator

enables 100% monitoring of transactions in real time. Its pre-integration with Oracle EBS on the cloud means faster action and IT simplification. Falcon Assurance Navigator's advanced analytics means smarter detection – identifying and prioritizing anomalies such as company travel policy non-compliance, duplicate invoices, past credits, split requisitions,

or personal expenses. Falcon Assurance Navigator also identifies systematic fraud patterns such as abnormal requestor-vendor relationships, redirected payments to personal accounts, and abnormal expenses in thousands of expense categories, invoices, and payments across all of the organizations' back office finance processes in real time.

To learn more, visit:

fico.com/en/products/fico-falcon-assurance-navigator



FICO More Precise
Decisions

FOR MORE INFORMATION

www.fico.com
www.fico.com/blogs

NORTH AMERICA

+1 888 342 6336
info@fico.com

LATIN AMERICA & CARIBBEAN

+55 11 5189 8267
LAC_info@fico.com

EUROPE, MIDDLE EAST, & AFRICA

+44 (0) 207 940 8718
emeainfo@fico.com

ASIA PACIFIC

+65 6422 7700
infoasia@fico.com

FICO and Falcon are trademarks or registered trademarks of Fair Isaac Corporation in the United States and in other countries. Other product and company names herein may be trademarks of their respective owners.
© 2019 Fair Isaac Corporation. All rights reserved