



EXECUTIVE BRIEF

# Infor OS: A complete overview

INFOR OS

Infor® has grown significantly in the past decade with a focus on industry-specific SaaS solutions via Infor CloudSuite™, numerous strategic acquisitions, and organic growth of its existing technologies. One essential piece to the company's success and innovation is its foundational cloud platform, Infor OS (Operating Service). Infor OS provides horizontal technology services across all of Infor's CloudSuites and extends into third-party solutions as well. The services range from essential, business-critical functionality to more advanced high tech capable of providing competitive advantages to the enterprise.

The collection of services are highly related in that each provides cascading benefits to the others, and it is this strategy that allows customers to reap the benefits of innovation quickly and easily without the need to custom-stitch services. With more than 10,000 customers, worldwide availability in nine Amazon Web Services (AWS) regions and growing, over 4,000 cloud tenants in the US-East region alone, and monthly updates with zero downtime, Infor OS is one of the most successful and proven cloud platforms on the market.

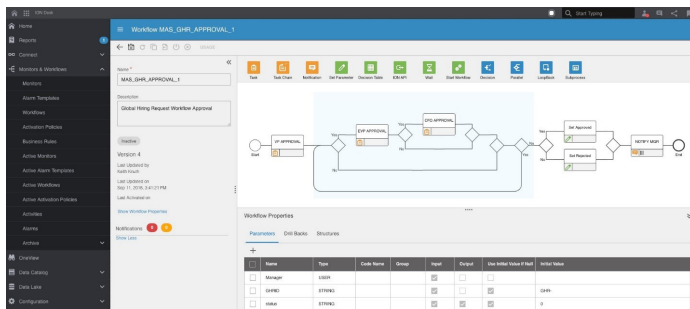
**Infor OS is focused on bringing value to enterprise technology in the following areas:**

- Business process integration (Infor ION® & API Gateway)
- Security (Federation Services)
- Data management (Infor Data Lake)
- Enterprise user experience
- Cloud extensibility (Infor Mongoose)\*
- Artificial intelligence (Infor Coleman®)\*
- Governance, Risk & Compliance (Infor GRC)\*

\*add-on to core Infor OS

## Integration & business process

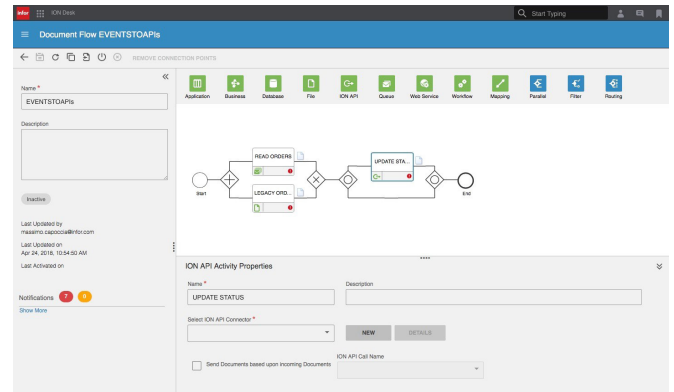
Infor ION (Intelligent Open Network) is the most mature service within the Infor OS platform and represents Infor's integration strategy for creating industry-specific solutions. With over 15 billion cloud events, 225 million active workflows, and 75,000 active connection points—most of which are for custom and hybrid applications—Infor ION is built for scale. ION allows for Infor and non-Infor applications to easily connect and share messages and transactions in common asynchronous forms with available mapping services. Users are also able to create monitors and workflows on events that lead to distributed tasks, notifications, and even complete automation. The user experience is designed for citizen developers with easy-to-use modelers for system administrators. Infor ION is also used as the modeling service for data ingestion into the Infor Data Lake so that the experience of integration and mapping maintains consistency across the entire footprint.



Complete workflow automation

Synchronous integration patterns are also available in Infor OS through the API Gateway. Similar to the history of ION, the API Gateway has a mature history with over 50 billion API calls within our current multi-tenant footprint. Infor applications register their APIs and documentation with a single catalog with common security and policy management for proper control of the ecosystem. Advanced capabilities include the ability to create complex orchestrations and chaining of APIs with a similar modeling approach as ION connections and workflows. Users also can call registered APIs in ION's modeling services to effectively meet complex business process integration needs where asynchronous and synchronous worlds combine.

The API Gateway serves a foundational role for innovation as well, which includes being the backbone for our approach to extensibility in the cloud and customized innovative user experiences. Third-party APIs and documentation can also be registered and secured through the API Gateway, meaning the functionality is not exclusive to Infor products.



Combine information from disconnected systems

The entire footprint allows customers to securely and efficiently manage all integrations and communication links across their business, including hybrid on-premises and cloud capabilities. Complete end-to-end data lineage is available, and developers have complete documentation at their disposal. Infor ION and the API Gateway are staple technologies for the Infor community that will continue to progress and expand.

## Security (Federation Services)

Infor OS provides world-class security services through its Federation Services to authenticate, authorize, and regulate users, APIs, and more. The security services use SAML 2.0 standards for authentication and can integrate Infor CloudSuite with a federated identity provider (3rd party) of the customer's choosing. Infor OS on-premises is now packaged with Infor STS (Security Token Service) to allow on-premises customers to integrate on-premises Infor applications with various identity providers in addition to Microsoft AD FS. Infor OS Federation Services provides the ability to create and handle single sign-on across applications, provides user role and attribute management as it relates to access, grants role management of all users, and orchestrates the capabilities of consistent mobile app access across more than 2 million current users in production environments.

**The following federated identity providers are available:**

FEDERATED IDENTITY PROVIDER	ON-PREM WITH INFOR STS	SINGLE TENANT CLOUD	MULTI-TENANT CLOUD
Ping One	Yes	Yes	Yes
Okta	Yes	Yes	Yes
Azure AD	Yes	Yes	Yes
OneLogin	Yes	Yes	Yes
Centrify	Yes	Yes	Yes
Microsoft AD FS	Yes	Yes	Yes
Ping Federate	Yes	Yes	Yes
CA SSO (formerly SiteMinder)	Yes	Yes	Yes
Oracle Access Manager (OAM)	Yes	No	Yes
ForgeRock OpenAM	Yes	Yes	Yes
NetIQ Access Manager	Yes	Yes	Yes
GLUU Identity Server	Yes	Yes	Yes
WSO2 Identity Server	Yes	Yes	Yes

**Data management (Data Lake)**

Infor OS provides the ability to efficiently manage enterprise big data consistently with the Infor Data Lake for cost-effective multi-consumption, allowing for more progressive innovation with advanced analytics and AI. Infor applications replicate their data automatically to the Data Lake through ION services, and streaming APIs are also available to ingest third-party data into the Data Lake as well. The Data Lake comes with a data catalog to register metadata and format to maintain data integrity as well as other services to query data in the admin user interface (UI) with a query editor or via APIs. Users can save common or complex queries and publish as an API, or transfer data for a variety of use cases, such as loads related to BI and analytics with a utility available for classic ETL (extract, transform, load) scenarios. The Data Lake can play a vital role in innovation, providing a data repository for extended applications, data analysis, machine learning, and advanced compliance. The Data Lake, among the other core Infor OS components, is certified for Health Insurance Portability and Accountability Act (HIPAA) and General Data Protection Regulation (GDPR) compliance.

**Enterprise user experience**

Infor OS provides a unique perspective when it comes to the software experience of everyday users. While the overall footprint of systems can be quite diversified and complex, Infor OS provides tools to keep the user experience consistent, secure, and personalized for every role, group, and user. Users can stay out of the complicated depth of systems and focus on what their role or task requires in a simplified form. All components are directly tied back to the core components of Federation Services, ION, and API Gateway interaction so that organizations can be assured that employees are using and seeing exactly what they should when they should, and in a manner that's fit for the individual's role, personality, demographic, and more.



## Cloud extensibility (Infor Mongoose):

With the Infor OS extensibility platform called Infor Mongoose, organizations can build their own applications, mobile apps, and extensions that are optimized for use via desktop, tablet, or smartphone. The platform is fully integrated with all Infor OS services and allows users to build and deploy extensions all in the cloud.

Customers can rapidly develop robust enterprise capabilities based on enterprise needs. Whether they need an intuitive consumer-grade web interface or a high-productivity form, Mongoose can help create the right experience with minimal coding. Producing feature-rich applications that are automatically upgradeable and deployable on-premises or in the cloud, Mongoose is a low-cost, unified development platform.

### Key features

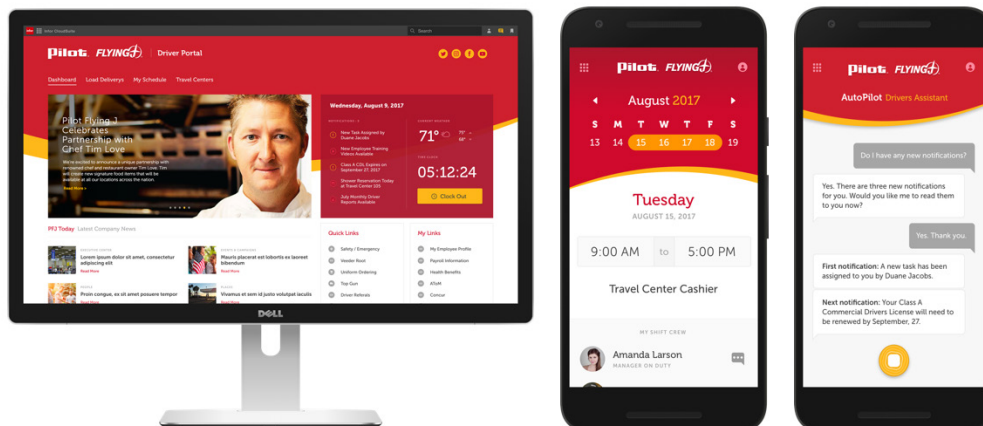
- Build high-end consumer UIs
- Composite screens
- Custom enterprise portals
- Mobile responsive apps
- Independent workflow engine—advanced encryption standard (AES)
- Full user control and security
- Browser-based development and deployment
- Full theming engine
- Multilingual development and application functionality
- Reporting engine
- No code/low code/full code options

## Build applications on top of your enterprise ecosystem systems

Streamlining business process flows and capturing valuable data systematically, Mongoose maximizes the user's ability to build simple web applications to complex enterprise-grade systems quickly. Prebuilt, enterprise-class, full-user security with single sign-on, Mongoose renders real-time browser and mobile interfaces. With business objects and logic shared across all device types, creating a mobile or tablet version of your app is simple, fast, and hassle-free.

### Automatic upgrades

Requiring no knowledge of complex source codes or programming languages, Mongoose empowers users to enhance and extend core enterprise solutions. Because the platform stores user extensions and customizations in metadata separate from the base application, it upgrades automatically when users deploy or upgrade to a new version of their application. In the cloud, this is especially important, where the Mongoose toolset is always current with monthly updates and fully backward compatible. This means your application is always up to date and ready to take on new technologies as they become available.





## Artificial intelligence (Infor Coleman)

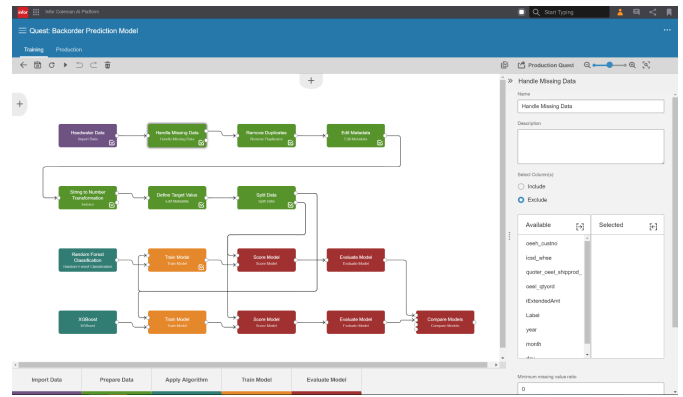
Infor Coleman represents our AI product suite and comprises natural language processing (NLP) and machine learning solutions that are tightly connected with the Infor OS platform. Infor Coleman can help with executing tasks in innovative ways, recommend next-best actions, and even predict potential issues and adjust systems accordingly. Named after the inspiring physicist and mathematician Katherine Coleman Johnson, whose trail-blazing work helped NASA land on the moon, Coleman represents a leap forward for practical and fast implementation of enterprise artificial intelligence at scale.

### Infor Coleman Digital Assistant

The Infor Coleman Digital Assistant is the first in a series of products rolled out under the Infor Coleman umbrella, and provides a conversational interface to the Infor OS platform and, by extension, the Infor CloudSuite. It offers custom skill building against the API Gateway, and a voice user experience (UX) for Q&A, task execution, and any other NLP-based extensibility use case. As a digital assistant, Coleman uses its conversational UX and NLP—with deep domain and industry knowledge—to convert typed or spoken words into inputs the system can understand without any level of deep technical training or knowledge. Infor provides example “skills” (for example, 50+ on CloudSuite Financials), but users can quickly build new skills without any development skills or custom coding.

### Infor Coleman AI Platform

The Infor Coleman AI Platform is a complete ensemble of tools for creating, managing, securing, and deploying machine learning models and use cases for the enterprise. It is built on the premise of repeatability, meaning customers invest in a solution capable of producing multiple projects quickly with a significant return on investment (ROI). Data sets are directly derived from objects in the Infor Data Lake documents, and Infor delivers common templates for industry issues and opportunities around machine learning. Machine learning models are deployed automatically as a secure REST API in the API Gateway and are easily accessible—making it quick and easy to embed machine learning recommendations and results with Infor ION, custom applications, and more.



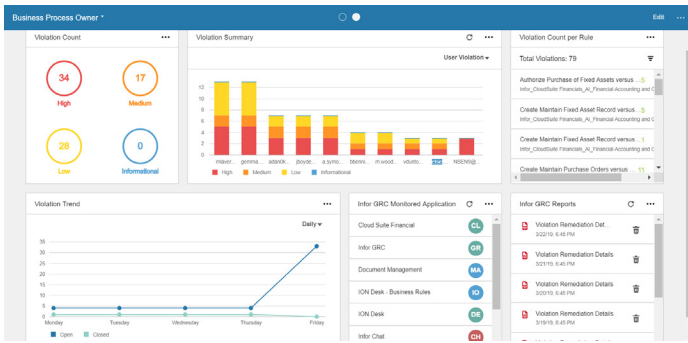
Coleman Quests are built by chaining activity blocks together, keeping the data flow simple and easy to follow.

### Key features:

- A single space for all of a company’s machine learning projects, including Infor and third-party data.
- Seamlessly integrate machine learning insights with existing business logic and custom applications, the catalyst for a more intelligent CloudSuite.
- Spin up new projects faster than ever by combining custom data with Infor’s industry-specific templates—enabling project implementation time in weeks, not months.
- A visual drag-and-drop interface that puts the power of AI into the hands of more business users.

## Governance, Risk, and Compliance (Infor GRC)

Large companies and public sector organizations face increased scrutiny from regulators, auditors, shareholders, and trading partners to certify the security, integrity, and accuracy of their financial statements and sensitive information. To effectively respond to these needs, organizations must implement automated systems to identify, analyze, and continuously monitor controls that govern their IT systems—including who has access, and what type of transactions they can execute.



Compliance management

Infor Governance, Risk, and Compliance (GRC) is a next-generation solution that helps monitor and protect an organization by continuously identifying critical operational risks, adhering to compliance requirements, and objectively prioritizing which concerns require increased attention and allocation of resources. The software analyzes user roles to proactively detect segregation of duties violations and potential issues in posted transactions and master data. Organizations can uniformly and actively manage multiple types of risk across the business to improve operational effectiveness and efficiency and reduce risk.

Infor GRC is a multi-tenant solution that is architected as a set of docker-enabled microservices. It leverages AWS technologies like Elastic Map Reduce and Spark for evaluating huge amounts of business process data. The solution is built and integrated with Infor OS, so it provides opportunities for enterprises that require integration with third-party applications.

Infor GRC offers a wide range of features:

### Financial fraud and business performance management

Organizations are prone to frauds like procurement fraud, asset misappropriation, bribery, and corruption. By using the out-of-the-box controls (rules), an organization can identify unauthorized employee reimbursements and violations of company policies. These controls can be easily modified, and new rules can be created through an intuitive user interface. Infor GRC can help avoid waste and increase efficiency by monitoring for duplicate payments, identifying overpayments, reporting on poor days sales outstanding (DSO) numbers, highlighting poor performance in accounts receivable or order to cash, and flagging when contractual terms are not leveraged.

### Audit management

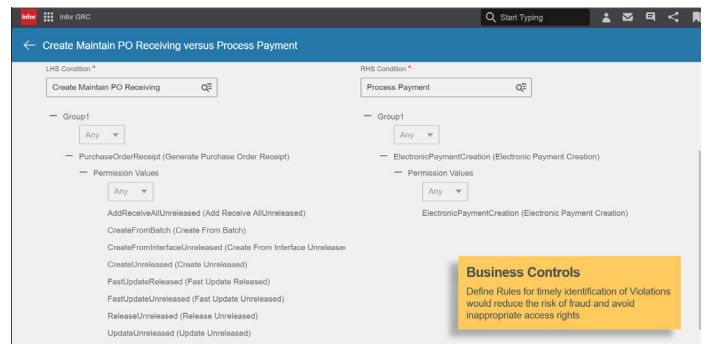
Internal and external audits can be costly and time-consuming. Enterprises can use automated controls from Infor GRC to reduce the business interruption caused by internal audits while ensuring company policies are followed. Violations have closed-loop remediation, and reports for both internal and external audits are easily created. Role-based dashboards help users stay on top of audit issues.

### Compliance management

Central and local government laws and regulations impose numerous compliance issues, as do industry standards and company policies. Compliance requirements are constantly changing, causing confusion and panic to meet the requirements. Infor GRC helps put automated controls in place to manage compliance around requirements like the Sarbanes-Oxley Act (SOX), segregation of duties, and Office of Foreign Assets Control (OFAC). The list of compliances is set to grow, and we are continuously working on enhancing the GRC solution based on the latest risks and compliances.

### Fraud prevention through segregation of duties

Infor GRC provides controls that can be defined to identify the segregation of duties and sensitive access risks. These risks can be remediated by the respective business owners, which is recorded for audit purposes. GRC also can exclude super users from the system to avoid generating misleading violations.



## Automated user provisioning and what-if simulation

The IT team handling the security, access, and authorization of users is under tremendous pressure considering the critical aspect of granting access to critical systems. With Infor GRC, the chief information officer can shift the burden of access control to the business, with enhanced user provisioning capabilities and efficient approval process features. A what-if simulation is available to help the IT team review and analyze the impact of access changes.

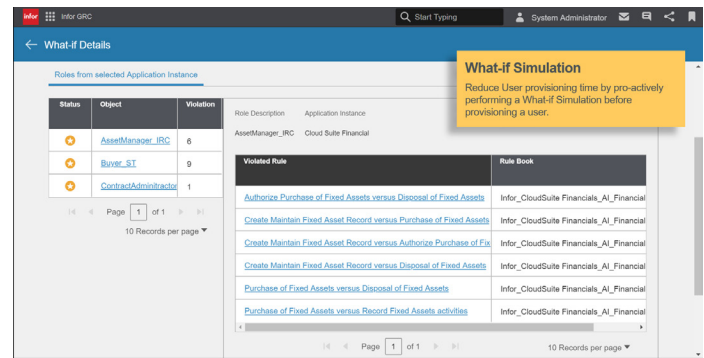
## Emergency access

For certain business scenarios, a user may need access to certain sensitive areas for a restricted period. GRC has an Emergency Access feature that allows a user access to a fixed number of pre-approved roles for a configured amount of time ranging from 1 hour to a maximum of 8 hours, after which the access is automatically revoked by GRC. An audit trail of all the activities is created.

## Periodic certification reviews

User provisioning, as well as monitoring of segregation of duties and sensitive access, are continuous processes in any organization. Changing business requirements also require changes in access or authorizations assigned to individual employees. With each team change, it is difficult to track whether an employee has access to only the assets and systems that are relevant to their current position. The certification process in GRC helps businesses conduct periodic reviews to capture irregularities in the system.

Infor OS is a cloud operating platform that seamlessly connects services, providing a robust technology framework that serves as the foundation of innovation for the entire business ecosystem.



Automated user provisioning and what-if simulation

## The foundation for business excellence

A unified infrastructure delivers a proven multi-domain enterprise technology platform providing the foundation for business excellence, including integration and automation, a data fabric, and security and compliance.

A unified user experience drives customer success by systematically reducing the complexity of business processes—providing seamless access to relevant business information when you need it and how you want it. The user-centered experience provides an end-to-end framework for creating a competitive advantage and differentiation through an intuitive UX, including enterprise workspace, mobility, and application development.

Finally, Infor OS delivers an enterprise-grade AI platform designed to unlock new value and experiences by leveraging foundational AI technology to provide essential value towards enterprise goals. Whether exploring a user experience powered by voice, considering increased smart automation, or discovering predictive insights in enterprise data, Infor OS enables simplified operations.

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