Accelerate Innovation
With the Power of the Internet of Things

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Our Connected World

Billions of connected devices, from smart vehicles to smart meters, generate ever increasing quantities of data. This worldwide network of connected devices is the Internet of Things (IoT).

The proliferation of smart devices has created opportunities for new business solutions based on IoT technology. Businesses are finding more and more ways to harness this data, using it to drive smarter decisions, open new markets, enable new services, and reduce costs.

When surveyed, 65% of firms said that they already have deployed or are in the process of implementing IoT solutions.

[Forrester Consulting Study commissioned by Zebra Technologies, Internet Of Things Solution Deployment Gains Momentum Among Firms Globally, November 2014]

The world will see 25 billion Internet connected things by 2020—just a short five years away. We estimate that the IoT will produce close to $2 trillion of economic benefit globally.

[Source: Gartner, Smarter with Gartner, The Internet of Things is a Revolution Waiting to Happen, April 30, 2015 http://www.gartner.com/smarterwithgartner/the-internet-of-things-is-a-revolution-waiting-to-happen]

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Take Advantage

How can you realize the promise of IoT when the work involved seems so daunting? If your business already uses many sensors and devices, can you use them or do you have to replace them with IoT-enabled ones? How can you integrate them and customize the data to provide the business intelligence you need? Won't that cost too much?

Oracle Internet of Things Cloud Service enables your business to enter the IoT arena quickly while minimizing the cost of adoption.

Oracle IoT Cloud Service is like a fast and simple on-ramp for merging IoT into your business. Work in the cloud to minimize your costs and time to market. Connect your existing sensors and devices to powerful analytics and business intelligence engines in the cloud. Customize your software intelligence on the device side and the cloud side to meet your business needs. Use friendly interfaces to set up monitoring of your IoT data. Oracle IoT Cloud Service security protects your network and data.

Get the right data into your back-end applications to make better business decisions faster, and to respond more accurately to changing market conditions in real time.

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Oracle Internet of Things Cloud Service

Can data from billions of connected smart devices drive successful business decisions and strategies? Use Oracle Internet of Things Cloud Service to make that happen.

Connect Your Devices
Connect your existing sensors and devices with Oracle IoT Cloud Service Client Libraries and Gateways, available for a wide range of platforms and programming environments.

Analyze Your Streaming Data in Real Time
Use built-in, easy-to-use analytics to specify how you want your data to be filtered and aggregated.

Harness the Power of IoT
Drive smarter decisions, open new markets, enable new services, and reduce costs.

Send Your Data to Enterprise Apps and Integrated Cloud Services
Integrate your data with enterprise applications and web services or with other Oracle Cloud services such as Oracle Business Intelligence Cloud Service.

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Connect Your Devices

Whether your business data comes from simple sensors or complex programmable devices, you can connect your data sources to Oracle IoT Cloud Service. Connect your existing sensors and devices to powerful business logic tools in the cloud, with support for standard device architectures and platforms. Oracle IoT Cloud Service handles security and identity, making creation of your IoT network safe, quick, and painless.

Connect your smart, programmable devices directly to Oracle IoT Cloud Service by using its **Client Libraries**. These libraries provide for bidirectional messaging between your smart devices and Oracle IoT Cloud Service. They handle the full lifecycle of security management including registration, activation and identity.

Connect your sensors and non-programmable devices to the cloud through Oracle IoT Cloud Service **Gateways** using an extensible protocol adapters framework with built-in support for standard protocols. The Gateways register your sensors with the Oracle IoT Cloud Service and handle secure, bidirectional communication between your devices and the cloud. Gateways are Java application environments onto which you can install software and then manage it from the cloud, providing the customized intelligence on the edge that you need for your IoT solution.

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Data Analytics

Without some way to harness it, a massive amount of data isn't of much use. Business value comes from being able to *analyze* that data in *real time.*

Use Oracle Internet of Things Cloud Service to turn high volume, high velocity data into value for your business.

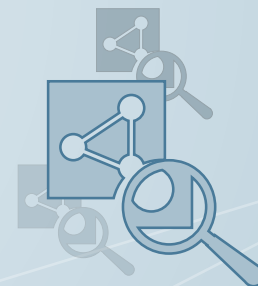Oracle IoT Cloud Service provides a business-focused visual approach to real-time analytics on data that is streaming from your devices.
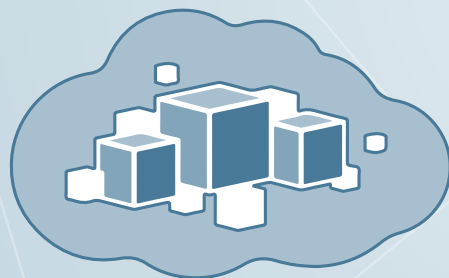
Select raw-data streams from your devices to use as input to the analytics.

With a user-friendly interface, choose a data analysis pattern to apply to your streams from a built-in assortment of well-known patterns.

Route the analyzed stream to your integrated cloud services or enterprise applications.

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Integration

Use Oracle IoT Cloud Service to integrate your devices and business data with enterprise applications and processes as well as with other Oracle Cloud services, such as Oracle Business Intelligence Cloud Service. Data from your devices streams to Oracle IoT Cloud Service where you can use analytics to aggregate and analyze the data. You can enrich the stream with device metadata to add an additional layer of context. Then use your customized data streams as input for your enterprise applications on the web, or pass your data to the powerful business intelligence engines of Oracle Business Intelligence Cloud Service.

Integrate with Enterprise Applications

Enterprise applications can subscribe to data coming from Oracle IoT Cloud Service and can receive streams of data from your devices in real time. This data input can be either raw data relayed from your devices or customized data that's been through your data analytics processing. Enterprise applications can also use the Oracle IoT Cloud Service REST API to issue commands and make queries to your devices, providing customized, intelligent orchestration for your business.

Integrate with Oracle Business Intelligence Cloud Service

Oracle IoT Cloud Service can automatically synchronize your data streams with the business intelligence engines provided by Oracle Business Intelligence Cloud Service. Subscribe to Oracle Business Intelligence Cloud Service to enjoy rapid creation of applications for agile analysis of your IoT data, and take advantage of dozens of visualizations and advanced calculations in a fast, friendly interface.

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End-to-End Security

Are you concerned about exposure to potential security risks in the cloud? Oracle IoT Cloud Service quiets those concerns by providing a secure environment of trusted devices, secure communications, and lifecycle management.

Trusted Devices
Oracle IoT Cloud Service security mechanisms provide the necessary provisioning and managing of the trust relationships needed to make all your devices part of a secure IoT solution. Each device is assigned a unique identity, and security credentials are prevented from being reused across devices. State transitions are managed to control access from devices and to restrict the types of operations that devices can perform in a given state.

Secure Communication
To ensure the security of your IoT network communications and data streaming, Oracle IoT Cloud Service enforces authentication prior to communication with any device or enterprise software, enabling proof of origin of data and ensuring that all components in the data flow are part of your IoT network. Transport-level security is used for all communications in your IoT network, ensuring your data is not vulnerable to snooping or corruption from outside.

Lifecycle Management
Oracle IoT Cloud Service manages device endpoint metadata and lifecycle states, including Registered, Disabled, Activated, and Deleted.

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Connect, Analyze, Integrate

Oracle IoT Cloud Service helps you quickly create an IoT solution for your business, with the customized business intelligence you need and easy integration with your existing enterprise applications.
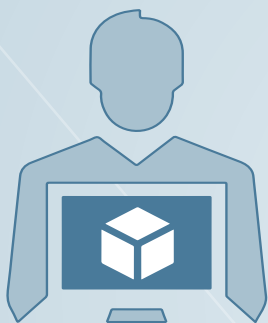
Connect
Reliably and securely collect data from any device in any market and accelerate your time to market with an open, secure, and scalable platform.

Analyze
Perform Big Data and predictive analytics in real time, delivering insights into streamed IoT data and events to identify new services and to improve customer satisfaction through enriched enterprise data.
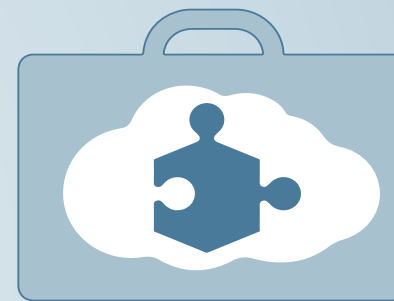
Integrate
Use open interfaces and pre-built integrations with Oracle's PaaS and SaaS offerings to reduce the total cost of ownership for applications and processes enriched with IoT data.

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IoT at Work

Technology for Any Vertical Market

- **Manufacturing companies** collect data from devices that fail or need repairs, then analyze this data to provide predictive maintenance, so they can determine, based on actual performance, which devices are most likely to need specific types of maintenance and when.

- **Transportation and logistics** track and trace assets, such as trucks and products, and use intrusion detection and location-based services to reduce losses of shipped goods and to optimize fleet operation.

- **Utility companies** develop smart meters and smart grids to gather digital information about power usage, enabling power companies to more closely monitor usage and then, based on consumption data, help consumers conserve energy.

- **Building automation and facilities management** use IoT devices to enable HVAC, lighting, and security systems to be more closely monitored and managed for enhanced energy efficiency and safety.

- **Hospitality industries** use IoT systems to improve the customer experience and increase loyalty by tracking and acting upon customer behavior and preferences, so they can deliver rewards and more tailored services that differentiate their businesses from their competitors.

- **Pharmaceutical companies** use IoT to track and trace drugs through the production and distribution cycles, helping manufacturers and their distributors stem the flow of counterfeit drugs.

- **Healthcare providers** use wearable devices to monitor patient behavior and activity.

- **The public sector** increasingly leverages IoT technology for traffic management by monitoring connected traffic lights, installs sensors in parking meters to let users with mobile devices more easily find parking spaces, and provides tools that law enforcement personnel use to gather and analyze data from connected devices to better address safety risks.

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Oracle IoT Cloud Service

Connect Your Devices

Data Analytics

Integration

End-to-End Security

Connect, Analyze, Integrate

IoT at Work

Get Started

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Oracle Internet of Things Cloud Service is available now. To get started with it:

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- Contact Oracle Sales about an Oracle IoT Cloud Service trial.

- Sign up for the FMW newsletter.

- Subscribe to the Oracle IoT Cloud Service YouTube channel and follow us on Twitter.

Watch a Video

Oracle Internet of Things Cloud Service: An Overview

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See events.oracle.com and blogs.oracle.com/cloud for information about Oracle Cloud events.

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- Blogs: blogs.oracle.com/iot/

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- Google+: Oracle Internet of Things Cloud

- YouTube: Oracle Internet of Things Cloud

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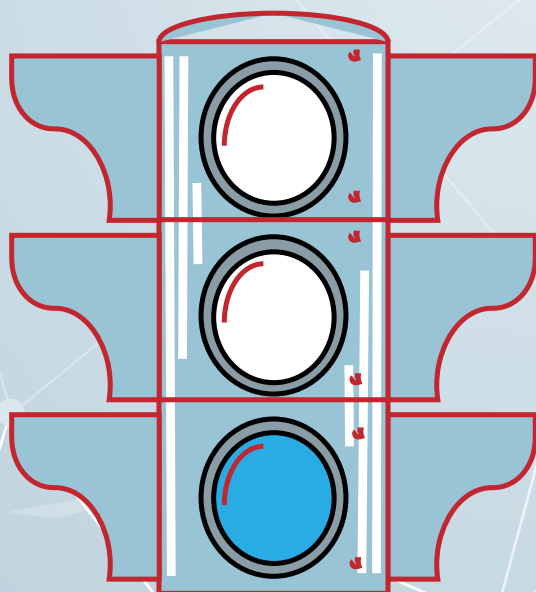
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