

Suppliers Innovation Meets Open Source

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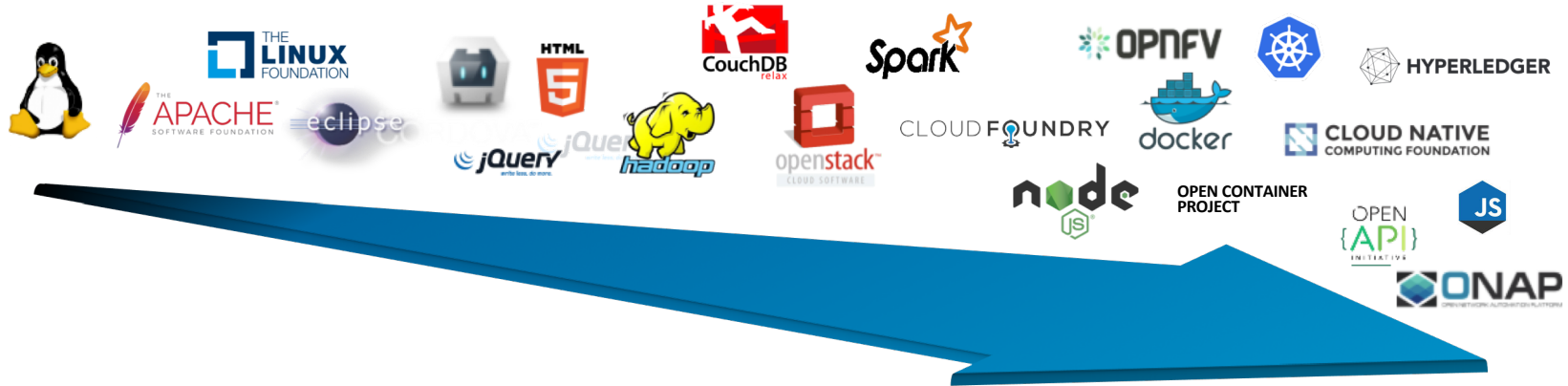
Telecommunications, Media and Entertainment Industry

Open Source: eating Software



Source: Black Duck 2016 Future of Open Source Survey

IBM's Long History with Open Source Software



IBM's Approach to Open Technology

The screenshot shows a web browser displaying the IBM DeveloperWorks website. The URL in the address bar is <https://www.ibm.com/developerworks/cloud/library/cl-open-architecture-update/>. The page features the IBM logo and a navigation bar with links for 'Marketplace', 'Search', and user account options. Below the navigation bar, the 'developerWorks' logo is prominent, followed by links for 'Learn', 'Develop', and 'Connect'. The main content area is titled 'Learn > Cloud computing'. On the left, a 'Contents' sidebar lists various topics, with 'Introduction' highlighted. The main article title is 'IBM's approach to open technology', written by Todd Moore and Chris Ferris. The article is dated April 27, 2013, and was updated on May 16, 2016. The text discusses IBM's long history of working in open technology, its investment in open governance, and its support for Linux and open source projects. Social media sharing icons for Facebook, Twitter, LinkedIn, Google+, and Email are visible next to the article title. The article content is as follows:

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- [For the good of the ecosystem](#)
- [Not all open source is created equal](#)
- [IBM's journey begins with Apache](#)
- [Eclipse](#)
- [Linux](#)
- [OpenStack](#)
- [Cloud Foundry](#)
- [Node.js](#)

IBM's approach to open technology

Find out how we're investing in the communities and projects that matter most to the enterprise

[Todd Moore](#) and [Chris Ferris](#)
Published on April 27, 2013 / Updated: May 16, 2016

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For several years, IBM has been recognized as a leader in open technology, from its early work with Apache to its current work across all layers of the cloud stack and application development. The case for open is clear: Projects that are managed under open governance have been found to be more successful, have a longer life, and are less risky than proprietary projects. Find out more about how IBM has played—and continues to play—an integral role in the storied evolution of open source.

IBM has a long history of working in open technology. In fact, in many ways, IBM is largely responsible for the open source movement's success. IBM's strong support for Linux—with patent pledges and significant technical resources and investment in the face of some of the legal uncertainty surrounding its

Earning our stripes



Code



Build expertise



Fix bugs



**Do the
dirty work**



**Foster open
policies**



**Build
community**



**Extend the
ecosystem**



**Consume the
technology**

IBM is Open by Design™

Open Source Only



'Significant Assembly
Required'

Proprietary



Vendor Lock-in
Assured

Partner



Enterprise
Innovation

There is a better way – Open Governance

Open Source
Development

Responsible Licensing

Accessible Commit Process

Diverse Ecosystem

Participative Meritocracy

Open Governance



Culture

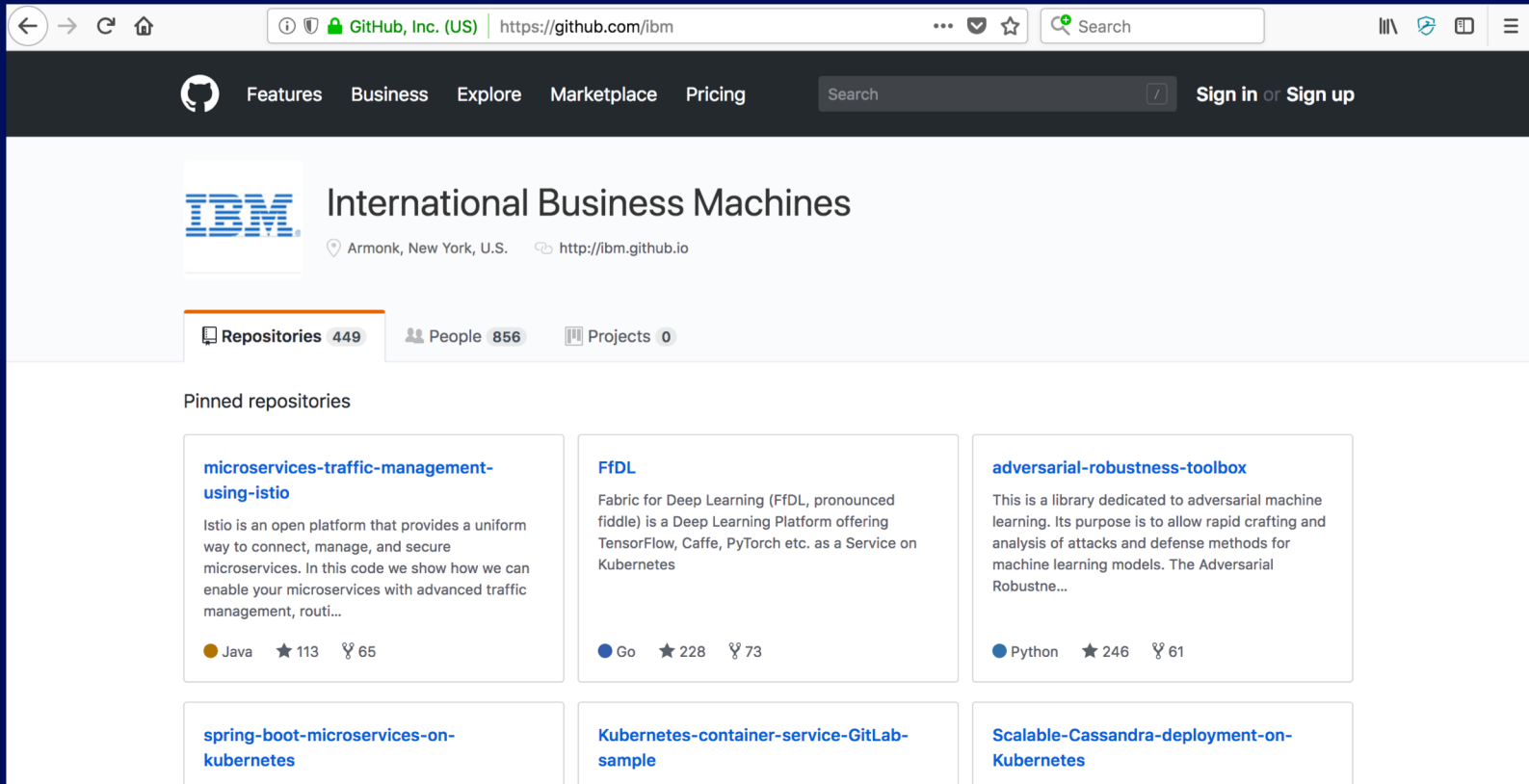


Community



Code

IBM in GitHub



The screenshot shows the GitHub profile page for IBM. The browser address bar displays 'https://github.com/ibm'. The navigation bar includes links for Features, Business, Explore, Marketplace, and Pricing, along with a search bar and 'Sign in' or 'Sign up' buttons. The profile header features the IBM logo, the name 'International Business Machines', and location information 'Armonk, New York, U.S.' with a link to 'http://ibm.github.io'. Below the header, statistics show 449 Repositories, 856 People, and 0 Projects. The 'Pinned repositories' section displays six repositories in a grid. Each repository card includes the repository name, a brief description, and statistics for stars, forks, and language.

Repository Name	Description	Stars	Forks	Language
microservices-traffic-management-using-istio	Istio is an open platform that provides a uniform way to connect, manage, and secure microservices. In this code we show how we can enable your microservices with advanced traffic management, routi...	113	65	Java
FfDL	Fabric for Deep Learning (FfDL, pronounced fiddle) is a Deep Learning Platform offering TensorFlow, Caffe, PyTorch etc. as a Service on Kubernetes	228	73	Go
adversarial-robustness-toolbox	This is a library dedicated to adversarial machine learning. Its purpose is to allow rapid crafting and analysis of attacks and defense methods for machine learning models. The Adversarial Robustne...	246	61	Python
spring-boot-microservices-on-kubernetes				
Kubernetes-container-service-GitLab-sample				
Scalable-Cassandra-deployment-on-Kubernetes				

Applying Strategy to Open Networking



2014



2017



**ONAP deployed on IBM Cloud Private – fully
Kubernetes-based**

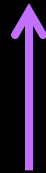
**BM Services for ONAP – NFV deployments & integrations,
DevOps : US, Canada, Europe, India**

Ranked 5th in contributions to ONAP

Turning Market Challenges into Market Opportunities

Digital Engagement

Deliver **personalized customer experience** with deep insight across all channels



*Omni Channel
Customer Centric*

Competitive Excellence

Enterprise agility

Enable core **business agility** through Cloud & AI process optimization

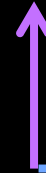
*Intelligent &
Efficient
Infrastructure*



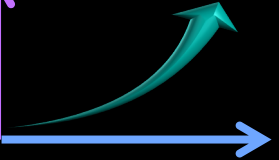
Continuous
Innovation

Platform services

Rapid service innovation through **platforms and virtualized networks**



*Agile and
Innovative*



New Market
Adjacencies

IBM is dedicated to help Communication Services providers transform in the new digital era

IBM Thought Leadership

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Connections are limitless,
the network is not

A "living" network thinks ahead and continually transforms

[Link](#)

IBM Institute for Business Value

83% of world's largest CSPs are IBM clients

\$3B Invested by IBM on IoT open platform and tools

25K IBMers serving Telecom and Media clients

25 Consecutive years of US patent leadership, holding >9K patents

60 IBM cloud data centers in 19 countries

20 Client centers globally, including AI and automation centers

12K Clients in 133 countries served by IBM Security; monitoring >35B events day

1.3B Watson API calls made every month by >50 Watson APIs with more added every year



[Link](#)

Victorious or vanquished?
Digital Reinvention in telecommunications

IBM Institute for Business Value



[Link](#)

Reimagining telecommunications with blockchains¹¹
From concept to reality

IBM Institute for Business Value

Thank you

