

# Annual Report 2019

CLOUDFOUNDRY

January 2020



In 2019, the Foundation focused on building the future – the future of the ecosystem, of the cloud native developer experience, and of the enterprise. Building on the interoperable projects announced in 2018, the Foundation launched campaigns around interoperability, adaptation and how developers are mastering change. This year, the Foundation announced support for Project Eirini by all Certified Providers of Cloud Foundry less than one year after its launch, with multiple technical previews in the market; rolled out Version 2.0 of the Cloud Foundry Certified Developer program; announced its first two Certified Systems Integrators; open sourced developer training materials; published three research reports and a user survey – while planning and hosting two major Summits in Philadelphia and The Hague. With a small but nimble team, the Cloud Foundry Foundation closed out the year with adaptability and change on the horizon.



### TECHNICAL COMMUNITY

The technical community consists of four Project Management Committees (PMCs), with individual project teams further breaking down the technical efforts within the PMCs. The PMCs are Cloud Foundry Application Runtime, Cloud Foundry BOSH, Open Service Broker API and Cloud Foundry Extensions. The lifecycle of PMCs is governed by the PMC Council, while each PMC is responsible for the lifecycle management of projects within their scope.

2019 saw our community continue to build on the important momentum around integrating Kubernetes, Istio, and other technologies into the platform, including the key milestone of Project Eirini reaching 1.0. Most projects across the PMCs are re-orienting themselves around the idea that Kubernetes is a primary deployment target. This has resulted in changes to the road maps of several projects and has led to a new wave of collaboration across participating organizations. Our community is now purposefully headed down the path of making Kubernetes a primary architectural component of the Cloud Foundry Application Runtime. The community's mission is to bring the power of the "cf push" developer experience to Kubernetes-based environments.

The Cloud Foundry technical community does its work across hundreds of git repositories in the Foundation's three primary GitHub organizations ([cloudfoundry](#), [cloudfoundry-incubator](#) and [openservicebrokerapi](#)), averaging 305 repositories with activity per month. Some key statistics about our technical community activities in 2019 include:

- **45,754 commits** were made by **763 unique authors** to **498 different repositories**
- **5,931 pull requests** were made by **657 unique contributors**
- While these pull requests include some cross project collaboration by committers, they were primarily from contributors outside of the core committer group
- **2,655 issues** were opened against **317** of our repositories by **931 unique submitters**
- **11,892 users** are registered in the Cloud Foundry slack team, with **1,433** of those users participating in discussions across **114 public channels**
- Interesting note: two of the most commonly used words in the Cloud Foundry slack instance were "release" and "thanks," which says quite a bit about our community.

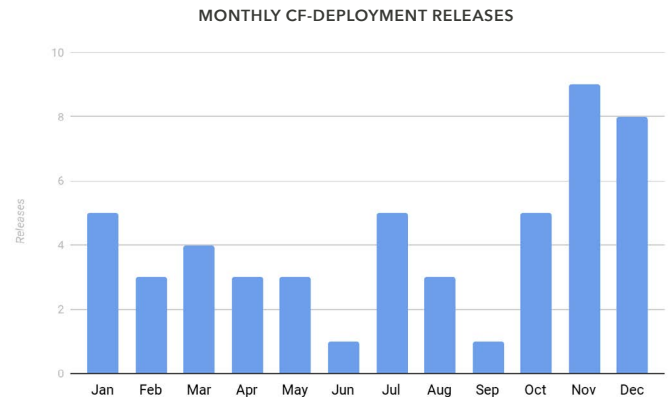
As previously mentioned, 2019 was a year of shifting priorities for the Cloud Foundry technical community. What follows are some relevant highlights from that community work.



### CLOUD FOUNDRY APPLICATION RUNTIME PMC

#### Release Velocity

Over the course of 2019, the community produced 50 releases, averaging a little over 4 releases a month. This is down from an average of 6 releases a month in 2018, but we expect that to increase again for 2020. In October of this year, the Release Integration team announced that it is now automatically releasing minor versions of cf-deployment for every new minor stemcell version. This change resulted in an increased frequency of releases in November (9 releases) and December (8 releases).



#### Project Updates

- The v3 Acceleration Team, formed in late 2018, has significantly increased the pace of implementation of the various v3 API capabilities. This joint effort between the CAPI (Cloud Foundry API) and CLI (Command Line Interface) projects has the sole focus of implementing the v3 APIs in both the cloud controller and the CLI. In order to accelerate their work, the CLI team has been releasing along two parallel version lines: 6 and 7. Versions 6.x of the “cf” CLI tool remain compatible with v2 APIs, while versions 7.x are focused on the v3 APIs.
- Specific to the use of the Open Service Broker API within the platform, the Services API team has similarly been focused on creating the appropriate v3 APIs for service related resources.
- The Routing and CF Networking projects merged into a single effort, Networking. This reflects their primary focus of moving towards all Networking functions being provided by Istio. The team made numerous releases of the various components, and continues to work to ensure that the new Networking architecture will be production ready.
- The Loggregator team has also done quite a bit of work around their core architecture, reorienting themselves around a shared-nothing approach. The firehose endpoint was deprecated.
- The Bits Service project wound down this year, due to the accelerating adoption of more standardized container images opening up the possibility of using image container registries.
- Support for cflinuxfs2 has been removed from the platform.



## Technology & Community

### Kubernetes Integration Efforts

- Project Eirini released version 1.0, and continues its work to ensure that integration with Kubernetes is as strong as possible.
- The Garden team has begun work to ensure a Kubernetes-based deployment of Cloud Foundry is able to provide the same isolation guarantees as a Diego/Garden architecture.
- The CAPI team is working towards enabling a CFAR (Cloud Foundry Application Runtime) control plane managing applications in multiple Kubernetes clusters.
- Work to implement Cloud Native Buildpacks within CFAR has begun, including efforts to integrate kpack.
- The Networking team detailed their plan to integrate Istio into the CF-on-K8s efforts, and have shipped a feature leveraging Istio and Envoy to provide http ingress routing for a Kubernetes-based CFAR deployment.
- In addition to CFAR component teams working on control plane features for a Kubernetes-based architecture, most project teams are also working to ensure their own projects are easily deployed into Kubernetes.

### CLOUD FOUNDRY BOSH PMC

- 25 new versions of BOSH were released over the course of the year.
- The BOSH Core SF and Toronto teams have been merged, and a secondary team, BOSH Systems, has been spun off to focus on stemcells and DNS.
- BOSH Process Manager (BPM) graduated from incubating to active.
- Support for BOSH v1 manifests was removed.
- The BOSH OpenStack CPI project shifted to a minimal maintenance mode.
- With the goal of reducing complexity within the code, the BOSH team announced that the bosh-linux-stemcell-builder will be removing any build targets not directly supported by the BOSH core project team.
- The Project Quarks team began work on cf-operator, and released version 1.0.



### OPEN SERVICE BROKER API PMC

Work on the Open Service Broker API has largely slowed, as the spec has been relatively stabilized. Versions 2.14 and 2.15 were released in 2019. Some discussions about a version 3 API have occurred, but they remain in early stages.



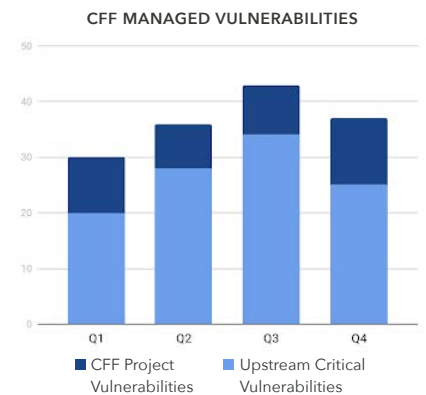
### EXTENSIONS PMC

The Extensions PMC continued to support a variety of ongoing projects that extend the Cloud Foundry Application Runtime and BOSH platforms:

- Stratos graduated to active status. Stratos' main GitHub repository also holds the distinction of being one of the most active repositories within the community's organizations, and the project released 6 new versions over the course of the year.
- App-Autoscaler graduated to active status.
- Abacus retired to the Attic.
- Credhub proposed an update to Credhub encryption to use the Key Encryption Key (KEK) encryption scheme.
- The buildpacks project is actively working to migrate to the new buildpack specification from the Cloud Native Buildpacks project.

### VULNERABILITY MANAGEMENT

Our technical community continues to make security a top priority, including responsibly handling vulnerabilities discovered in both the Cloud Foundry codebase and those from upstream dependencies. Over the course of the year, 39 vulnerabilities were identified and resolved. An additional 107 upstream critical vulnerabilities were identified and remediated within Cloud Foundry project releases.



### COMMUNITY MANAGEMENT

Over the last couple of years, Cloud Foundry community members have demonstrated increased levels of engagement, collaboration, and advocacy of the technology, not just within the community but also in other open source communities such as Kubernetes, Istio, and Cloud Native Buildpacks, among others. The Cloud Foundry Foundation staff continues to support the community in these efforts.

- **End Users:** Our end user engagement continues to stay steady in our community. User Days at Cloud Foundry Summits are well-attended, with high levels of engagement. Users also connect and share their Cloud Foundry experiences during the monthly User Advisory Council calls.



## Technology & Community

- **Contributors:** Starting in 2019, Cloud Foundry Summits included Contributor Summits as a Day Zero event to bring contributors together for in-person interactions and discussions. From the beginning, Contributor Summits have been well-attended and highly valuable events for community members.
- **Meetups:** Meetups across the world continue to grow the number of events, members, and topics. Nearly 160 groups with more than 106,000 members meet regularly across various locations including Berlin, Dallas, Kansas City, New York, Stuttgart, and more.
- **Cloud Foundry Ambassadors:** The Foundation staff's commitment to the Ambassador program resulted in increased engagement from Ambassadors, along with expanded interest from the community members in the program. Ambassadors led activities such as User Day, the Unconference at Cloud Foundry Summits, regional events and meetups, Contributor Summits, and participated in webinars and keynotes at Foundation events.

Cloud Foundry Foundation's focus in 2020 will continue to be on programs and initiatives that bring contributors, end users, and members together.

### DEVELOPER CERTIFICATION AND TRAINING

- Over 25,000 students have participated in our educational programs.
- Cloud Foundry Certified Developer Version 2 was launched in early September.
- The Foundation created and open sourced a certification exam preparation course, which was delivered on-site at the Cloud Foundry EU Summit in The Hague.

### KEY LESSONS FROM 2019

- Our community experienced a year of intense change, both in terms of the ecosystem's composition and the direction of the projects. The community navigated these changes quite well, but must be prepared for continued changes in the coming years.
- Commensurate with the continued improvement of the Cloud Foundry Application Runtime's developer experience, the Cloud Foundry Certified Developer exam was simplified, leading to a more enjoyable experience for candidates.
- Contributor Summit and User Day events are valuable opportunities for community members. These provide ideation opportunities for new initiatives, which informs our 2020 event design.



### **AREAS FOR IMPROVEMENT IN 2020**

- Community engagement around documentation, vulnerability management, training content, etc. is an area where we should focus time in 2020. There are lots of opportunities for the community to help, beyond code and advocacy.
- Our Ambassador program has largely revolved around our events. As we look forward to 2020's event strategy, our Ambassador program needs to evolve to focus on advocacy opportunities outside of the Cloud Foundry community itself.
- Long-form training has value, but we have an opportunity to think about smaller blocks of training material. In 2020, we plan to embrace this strategy through new material and open engagement with the community around authorship of training material.





## Marketing & Communications

In 2019, the Foundation marketing and communications team was a well-oiled machine. The team hosted two Cloud Foundry Summits in North America and Europe, launched multiple new marketing campaigns, refreshed outdated content on its website, updated key documents, reconfigured the user stories program, and published nearly 70 articles from the executive team. 2019 saw the webinar program in full swing and an increase in tutorial-style blog posts contributed by the community, both serving as answers to the community's request for more technical content. We continued to work with our research firm, generating unique data and building out content campaigns to promote and legitimize our findings. By the end of 2019, the marketing team had created more unique content than ever before, expanded its media and analyst program and delivered on digital strategy.

### INDUSTRY OPINION RESEARCH

The Foundation continued to track the rapid evolution of the cloud industry through a regular cadence of Global Perception Studies (GPS). This research provided high quality data on emerging technologies, cloud trends and IT strategy to guide Cloud Foundry marketing strategy and brand identity. Using the data from this research, Cloud Foundry continues to successfully navigate the rapidly changing cloud space in order to maintain relevance for users today and tomorrow. GPS results were also consistently leveraged in conversations with analysts and journalists to add data points to the industry conversation around platform, containers and serverless, as well as the industry's trajectory. The Foundation published four reports in 2019 based on quantitative and qualitative research provided by ClearPath, including [Climbing Up the Stack: As Cloud Strategies Grow More Complex, Developers Seek the Ease of Abstraction](#); [Adaptation, Not Adoption, is the Key to Digital Transformation: Why IT Strategy Requires a Perpetual State of Change](#); [How Developers are Mastering Change: Interoperability, Training & Other Indispensable Tools](#); and the [2019 Cloud Foundry User Report](#).



### GLOBAL CLOUD FOUNDRY EVENTS

With the support of our members, the Foundation hosted two successful Summits in Philadelphia and The Hague. In a year with event overload in the tech industry, we were unsurprised to see registrations for the North American Summit decrease from 1,528 in Boston to 1,029 in Philadelphia, and registrations for the European Summit in The Hague decrease from 961 to 711.



## Marketing & Communications

The reason for this decrease in registration is twofold: As open source and other industry events proliferate, there is more pressure on our typical sponsors to sponsor different conferences, leaving less sponsorship money available for Cloud Foundry Summit. In the same vein, attendees must be more decisive about which conferences to attend, and many chose to attend newly established events instead of returning to Summit.

As a result of decreased sponsorships and declining registration, Cloud Foundry Foundation has reimagined its events strategy for 2020. Cloud Foundry Summits will be co-located at Open Source Summits in North America (Austin, TX) and Europe (Dublin, Ireland) as single-day events designed for a smaller audience of core community members, primarily contributors and end users.

The Foundation will also re-energize the Cloud Foundry Days program among members, encouraging member organizations to host regional branded events to bring Cloud Foundry Days to a broader audience.

### **PRESS COVERAGE 2019**

2019 was another very successful year for press and analyst relationships and coverage for the Cloud Foundry community. In fact, there were 24,505 media mentions of “Cloud Foundry” and 1,396 media mentions of “Cloud Foundry Foundation” in global coverage. Cloud Foundry Foundation issued 12 press releases, with the communications teams and its member organizations pitching a wide range of news items throughout the year.

Some coverage highlights from the year, excluding Summit coverage, include:

- InsideBIGDATA, Rich Brueckner: [Video: New Survey Looks at What’s Driving Companies to the Cloud](#) (1/31/19)
- Data Economy, João Marques Lima: [Power 200: The World’s Most Influential Data Economy Leaders](#) (1/31/19)
- DataCenter Insider, Ludger Schmitz: [Viel Open Source für Clouds- Wirrwarr oder Stärke?](#) (1/31/19)
- The New Stack, Bryan Friedman: [6 Must-Attend Talks at Cloud Foundry Summit on Serverless, Knative, Microservices](#) (2/19/19)
- The New Stack, TNS Staff: [Google’s Hybrid Cloud, Cloud Foundry’s Upcoming Philadelphia Summit](#) (2/22/19)



## Marketing & Communications

- ComputerWeekly, Adrian Bridgwater: [Cloud Foundry CTO on the key to DevOps transformation](#) (3/7/19)
- CIO Dive, Alex Hickey: [With cloud basics covered, organizations embrace the disruption of open source](#) (3/8/19)
- The New Stack, Mike Melanson: [Zettaset Launches Software-Defined Encryption for Cloud Foundry](#) (4/3/19)
- Container Journal, Mike Vizard: [SUSE Melds Kubernetes and Cloud Foundry Further](#) (4/3/19)
- Enterprise Times, Ian Murphy: [Abby Kearns on embracing cloud native](#) (4/7/19)
- TechRepublic, Matt Asay: [Cloud Foundry's embrace of Kubernetes is business as usual, not a "demise"](#) (4/8/19)
- ITWorld, Paul Krill: [Eirini project brings Kubernetes to Cloud Foundry](#) (4/11/19)
- LeMondelInformatique, Paul Krill: [Grâce au projet Eirini, Kubernetes arrive dans Cloud Foundry](#) (4/12/19)
- The New Stack, B. Cameron Gain: [Cloud Foundry's Eirini and the Commitment to Interoperability](#) (4/15/19)
- Forbes, Joe McKendrick: [Digital Technologies' Benefits Are Still Out Of Reach For Most](#) (4/17/19)
- The New Stack, B. Cameron Gain: [How Cloud Foundry Has Cast Its Net Wide](#) (4/29/19)
- L'Informaticien: [Le conteneur comme nouvelle base du modèle économique](#) (5/1/19) [PRINT]
- Aerospace Testing International: [How cloud technology can deliver improvements in aerospace testing and development](#) (5/21/19)
- Forbes, Udi Nachmany: [Containers Put The 'Dev' Back In DevSecOps](#) (5/28/19)
- Programmez: [Le Cloud pour moderniser les applications? Est-ce si simple?](#) (6/1/19) [PRINT]
- DevOps: [Abby Kearns, Cloud Foundry-- KubeCon + CloudNativeCon, Barcelona](#) (6/5/19)
- Dev-Insider, Stephan Augsten: [Neue Prüfung zum Cloud Foundry Certified Developer](#) (7/22/19)
- TechTarget, Chris Tozzi: [Is a Cloud Foundry deployment right for you?](#) (7/24/19)
- SDTimes, Christina Cardoza: [Moving to the cloud](#) (8/6/19)
- Forbes, Devin Davis: [All Marketing Is Content Marketing](#) (8/15/19)



## Marketing & Communications

- ZDNet, Steven J. Vaughan-Nichols: [VMware's proposed Pivotal acquisition shows Cloud Foundry's strength](#) (8/16/19)
- CRN, Joseph Tsidulko: [VMware And Pivotal: What Would A Merger Mean For The Cloud Foundry/Kubernetes Debate](#) (8/16/19)
- TechCrunch, Frederic Lardinois: [With its Kubernetes bet paying off, Cloud Foundry doubles down on developer experience](#) (9/9/19)
- DevOps, Mike Vizard: [Survey Sees Cloud Foundry Momentum Gains](#) (9/11/19)
- Datacenter Insider, Ulrike Ostler: [Cloud Foundry: Infrastrukturagnostische Bereitstellung Cloud-nativer Microservices](#) (10/21/19)
- ZDNet, Steven Vaughan-Nichols: [Has container hype jumped the shark?](#) (10/23/19)
- App Developer Magazine, Richard Harris: [Why developers want to reduce complexity](#) (10/24/19)
- Heise Online: Studie: [Entwickler wünschen sich mehr Abstraktion und weniger Komplexität](#) (10/25/19)
- LeMondelInformatique, Dominique Filippone: [L'usage des containers se tasse selon Cloud Foundry](#) (10/25/19)
- TechCrunch, Frederic Lardinois: [Cloud Foundry's Kubernetes bet with Project Eirini hits 1.0](#) (11/22/19)
- TechTarget, Tom Nolle: [Compare Red Hat OpenShift vs. Cloud Foundry in a Kubernetes faceoff](#) (12/18/19)

Cloud Foundry Philadelphia Summit 2019 attracted journalists from around the country. An exclusive media dinner also gave journalists the opportunity to speak freely with Cloud Foundry end users and build relationships.

Seventeen reporters attended the conference from key business and technology publications, including Forbes, InformationWeek, InfoWorld, TechCrunch, TechTarget and ZDNet. Additionally, nine reporters and two financial analysts attended the press dinner. Five total media briefings took place on-site with Abby Kearns and Chip Childers.





## Marketing & Communications

Coverage of the event was published widely in publications including DevOps.com, DICE, GeekWire, IT Pro Today, SDxCentral, TechCrunch and The New Stack, among others.

Coverage highlights are below:

- DevClass, Julia Schmidt: [Pivotal's new Cloud Foundry release is all about routing and automation](#)
- DevOps.com, Deborah Schalm: [Cloud Foundry Global Survey Finds Companies Commit to Digital Transformation Process with Confidence in Cloud](#)
- DICE, Nate Swanner: [Cloud Now Houses Most 'Mission Critical' Apps: Study](#)
- ExecutiveBiz, Darwin McDaniel: [TechFlow Seeks to Help Address Public Sector Tech Requirements Through New Alliance](#)
- GeekWire, Tom Krazit: [Pivotal adds features from service-mesh tech Istio and Envoy into new version of Cloud Foundry](#)
- InsideHPC, Rich Brueckner: [Survey: Companies are moving Mission Critical Apps to the Cloud](#)
- IT Pro Today, Nicole Henderson: [Cloud Foundry Report Assesses State of Digital Transformation](#)
- IT Pro Today, Nicole Henderson: [How Comcast Empowers Developers with Open Source](#)
- IT Pro Today, Nicole Henderson: [Defining Digital Transformation at Cloud Foundry Summit](#)
- SDxCentral, Dan Meyer: [Cloud Foundry Project Eirini Inches the Group Closer to Kubernetes](#)
- SDxCentral, Dan Meyer: [Could Knative Follow Kubernetes in Shaping Cloud Foundry's Future?](#)
- SDxCentral, Dan Meyer: [What Does the Future Hold for Cloud Foundry?](#)
- SDxCentral, Dan Meyer: [T-Mobile Uses Monarch for Controlled Chaos](#)
- SearchITOperations (TechTarget), Beth Pariseau: [Users forge ahead with Cloud Foundry-Kubernetes integration](#)
- SearchITOperations (TechTarget), Beth Pariseau: [Cloud Foundry PaaS undergoes seismic shifts as IT evolves](#)
- Storage Review, Adam Armstrong: [Pivotal Cloud Foundry 2.5 is Now GA](#)
- Storage Review, Marshall Gunnel: [Cloud Foundry Summit 2019 - Global Survey](#)
- RTInsights, Sue Walsh: [FRESH DATA: Most Companies Putting Critical Apps in the Cloud](#)



## Marketing & Communications

- TechCrunch, Frederic Lardinois: [Cloud Foundry \[Hearts\] Kubernetes](#)
- The New Stack, Alex Williams: [With Project Eirini, Cloud Foundry Adapts to a New Open Source Ecosystem](#)
- The New Stack, B. Cameron Gain: [Cloud Foundry's Past, Present and Future Discussed Over Pancakes \(4/11/19\)](#)
- The New Stack, Staff: Context: [12-Factor Serverless Apps, Cloud Foundry Summit Philadelphia](#)
- VMblog, David Marshall: [From the Edge to the Core to the Cloud, SUSE is Helping Customers Solve their Digital Transformation Challenges](#)
- ZDNet, Joe McKendrick: [In software development, empathy becomes a priority](#)
- ZDNet, Joe McKendrick: [Serverless computing growth softens, at least for now](#)

Twenty one EMEA-based journalists attended Cloud Foundry EU Summit in The Hague, The Netherlands. Nine came from the DACH region (Germany, Switzerland, Austria), two from France, five from the UK, four from the Netherlands and one from Denmark. Three US-based journalists also attended the event.



More than 49 unique pieces of coverage published in publications including ComputerWeekly, ComputerWorld, TechCrunch, Datacenter Insider, The Register, Heise, Data Economy and others. Twenty journalists attended a Q&A / press conference with Abby Kearns and Chip Childers, and a further seventeen briefings took place on-site with Abby Kearns, Chip Childers and Cloud Foundry users including Air France-KLM, Kaiserwetter and Swisscom.

Coverage highlights are below:

- CIO Online, Nicolas Certes: [Air France-KLM migre ses applications sur un PaaS open-source](#)
- Computable, Alfred Monterie: [Cloud Foundry bezig aan sterke opmars](#)
- ComputerWeekly, Cliff Saran: [Digital transformation requires a continuous approach to change](#)
- Computerworld, Scott Carey: [‘One big happy family’’: How Pivotal will fit back into VMWare](#)
- ComputerWorld NL, Henk Jan Buist: [Leveranciers azen op markt met ‘Kubernetes For Dummies’](#)
- DataCenter-Insider, Ulrike Ostler: [Cloud Foundry fragt nach den Gründen für den Cloud-Einstieg](#)



## Marketing & Communications

- Heise, Harald Weiss: [Cloud Foundry Summit: Mehr Anwender - weniger Besucher](#)
- Inuit, Herbert Koczera: [Cloud Foundry stellt Entwickler in den Mittelpunkt](#)
- IT Social, Solange Belkhayat-Fuchs: [Cloud Foundry, PaaS Opensource et Ecosystem](#)
- L'Informaticien, Bertrand Garé: [Les développeurs sur Cloud Foundry se sont donnés rendez-vous à la Haye!](#)
- Le Monde Informatique, Nicolas Certes: [Cloud Foundry Summit: Les développeurs adoptent de plus en plus le serverless](#)
- Le Monde Informatique, Nicolas Certes: [Daimler évolue vers les micro-services avec Cloud Foundry](#)
- Linuxmagazin, JC Brendel: [Notizen vom Cloud Foundry Summit 2019](#)
- Techzine, Floris Hulshof Pol: [Cloud Foundry moet navigeren op wild water](#)
- The Cloud Report, Julia Hahn: [Cloud Foundry Investment and Broad Deployments Increasing Year-Over-Year, According to Global User Survey](#)
- The Register, Tim Anderson: [Cloud Foundry has got its Red Hat on, hip, hip, hooray: IBM demos CF running on OpenShift](#)
- The Register, Tim Anderson: [Created to mimic Heroku: Cloud Foundry explained by its chief technology officer](#)
- The Register, Tim Anderson: [Why would anyone need Cloud Foundry when we have Kubernetes? Um, cos K8's really hard!](#)



Ten analysts from IDC, Ovum, Forrester, Gartner, Freeform Dynamics and GlobalData attended the Hague Summit. An analyst luncheon hosted by Abby Kearns was organized on the first day of the conference, resulting in two articles from Roy Illsley at Ovum and another from Katy Ring at the 451.

### INDUSTRY ANALYST RELATIONS

In 2019, Cloud Foundry Foundation took a targeted approach to industry analyst relations, focusing its efforts on analysts from tier one and influential boutique firms. Over the course of the year, more than 56 analysts from 15 firms including Gartner, Forrester, IDC, 451, Ovum and RedMonk participated in briefings and events designed to increase their awareness and understanding of Cloud Foundry technologies, contributors and users. These and other



## Marketing & Communications

interactions resulted in mentions of Cloud Foundry in 133 industry analyst reports and blogs, including an IDC Market Note responding to key announcements and accounts from the North American Summit.

As has become tradition, an invitation-only analyst event took place at both Cloud Foundry Summit North America in Philadelphia and Cloud Foundry Summit Europe in The Hague. Eight industry analysts from an excellent cross section of tier one and boutique firms, such as 451 Research, Amalgam Insights, Forrester, IDC and RedMonk, as well as two financial analysts from Citi and Keybank attended Cloud Foundry Summit in Philadelphia. Analysts attended a private lunch featuring an engaged end user panel with participants from American Airlines, c-Com, Comcast, Dick's Sporting Goods, Liberty Mutual and The Home Depot. Redmonk analyst Steve O'Grady also participated in the Pancake Breakfast panel discussion and published a wrap-up video following the event.

In the Hague, ten analysts from IDC, Forrester, Gartner, the451, Ovum, GlobalData, Teknowlogy and Freeform Dynamics attended an interactive end-user customer panel featuring AirFrance, DATEV, FedEx Express, innogy SE, Rijkswaterstaat and The Royal Bank of Scotland. The commentary and commitment to the Cloud Foundry platform exhibited by these customers helped generate upbeat analyst Twitter chatter and a positive write-up published by 451 Research and Ovum.

### **CONTENT**

The Foundation's content program was multi-faceted and highly impactful, with nearly 70 articles published across third-party websites. We published more than 60 posts on the Cloud Foundry blog that covered topics as diverse as technical tutorials, upcoming events, bug fixes, and community. The Foundation technical team began a quarterly cadence of Release Notes published on the blog and member companies contributed content as well. More than a dozen user stories were published on the Cloud Foundry site in 2019. The Foundation produced two videos in 2019 in the lead-up to the European Summit and in the Summit's aftermath, conducting multiple interviews on-site at the conference. Campaigns were built around four major reports with infographics, social surveys and thought pieces published to maintain momentum following the release of the reports. Content was written anew or refreshed across the Cloud Foundry website in order to tell the adaptation and interoperability stories, and reach the audience that matters.





### DIGITAL

During 2019, we focused on improving SEO, user experience on the website, as well as conducting backend tidying for a consistent look and feel. Initiatives included new webpages dedicated to projects like Eirini and Quarks as well as new web content that tied in with our interoperability messaging, in addition to an overhaul of top-level navigation on the site.

### Website

The website is one of the Foundation's key marketing assets. The content, usability and look and feel of the website reflects the Foundation's reputation, brand and core values.

Total pageviews for 2019 hovered around 1M. The top pages continue to be Why Cloud Foundry, Get Started, and event pages. The Foundation saw a measurable increase of traffic YoY on additional pages including Certification and How to Try Cloud Foundry.

Throughout 2019, we spent a great deal of time implementing the new flexible template to replace Visual Composer pages. This enhanced both the look and feel on the user side as well as the efficiency on the backend.

- **How to Try Cloud Foundry** page is up 52% (50,519 vs 33,194) in impressions (i.e. views in Google search results) since Q4 2018 and clicks in search results are up 1,211% (905 vs 69). It's also ranking #1 for about 25 relevant keywords, including our targeted keywords of "how to try cloud foundry" and "try cloud foundry." This reflects the transformative work conducted by our SEO team over the last year.
- **Get Started** page is up 34% in impressions (87,346 vs 65,015) and 262% in clicks (1,366 vs 377) since Q4 2018. This page has earned a "featured snippet" in Google and is currently ranking #1 in results for about 25 relevant keywords, including our target keywords "cloud foundry tutorial" and "get started with cloud foundry."
- **Summit landing page** (event/summit) saw an increase of 362% in search impressions and 730% increase in clicks in Google search results from April (when the page was first launched) to September (when EU Summit was held). Around the time of the EU Summit, Google awarded us with a featured snippet and site links for an enhanced result in search, and this page also earned the #1 ranking for our targeted keyword "cloud foundry summit."



### **The Foundry**

In 2019, The Foundry maintained its 5600+ listings, securing its place as the World's Largest Open Source Marketplace. We also launched the Certified Systems Integrators program with two listings from HCL and Accenture. Certified System Integrators have demonstrated contribution to the Cloud Foundry community through contributing code, hosting meetups, Foundation membership and more.

### **Member Dashboard**

The Foundation continued our shared marketing program to raise awareness of Cloud Foundry through collective member participation. The member dashboard included ways to promote Cloud Foundry to gain access to additional member benefits – for example, multiple mentions of Cloud Foundry in a member company's email newsletter to gain a banner ad in the Foundation's e-newsletter.

In 2020, we will update the organization of the dashboard to ensure it highlights top priorities for Members and provides easy access to digital assets needed to promote ongoing campaigns.

### **Email**

Our email database continued to grow with 30,000+ names in the database. Overall, the email program had some significant changes including revamping our email platforms and email templates. Our most successful communications of 2019 entailed Certification and training.

### **Webinars**

In 2019, we hosted five webinars. In the latter half of the year, we made the decision to scale back our webinar efforts and concentrate on content that would resonate well with the audience. This led to our three most successful webinars with over 500 people signed up.

### **Social Media & Online Growth**

In 2019, we maintained our audience of 85k across channels. LinkedIn continues to be a strong outlet for engagement, while Twitter provides an expanded reach in our industry with over 75k organic impressions in 2019. Twitter also provided over 20k sessions back to our content.

### **KEY LESSONS FROM 2019**

- **Content Strategy:** The goal of Cloud Foundry Foundation's content strategy is to align the creation, delivery and governance of content with the Foundation's 2019 business objectives



## Marketing & Communications

around Ecosystem, Interoperability and Engagement. In 2019, our content strategy informed large-scale marketing campaigns and dovetailed with new and refreshed messaging on enterprise developers, interoperability and project developments. Tying strategy to campaigns was an efficient way to assign and execute tactics across the team and helped lay the groundwork for future planning.

- **Cloud Foundry Summits:** As mentioned previously, Cloud Foundry Summits saw a decline in both sponsorships and attendance, largely due to an oversaturation of tech conferences and member companies subsequently hitting spending limitations around sponsorships. As the Cloud Foundry community condenses, we are refocusing our events on our core audiences: contributors and enterprise developers using the project. We need members to commit to sponsorships earlier in the process and to more widely promote Summit events in marketing materials.
- **User Surveys:** Our approach in 2019 had been altered to reflect our learnings in 2018, which were that one survey a year proved more effective than two. As a result, we garnered healthy responses and generated a widely read report on Cloud Foundry usage across the globe.
- **Member Engagement:** Member marketing of Cloud Foundry is essential to the success of Cloud Foundry and we rely on our members' marketing teams to align with Foundation messaging and help promote Foundation initiatives. Our members-only dashboard delivers incentives to members to promote Cloud Foundry. Feedback from members indicated they did not know about the shared marketing and benefit program, were unclear about how to use the member dashboard or didn't have time to take advantage of the program.
- **Social Media:** In 2019, Cloud Foundry utilized social media channels such as LinkedIn to promote content and events. Twitter continues to serve this community well enabling us to distribute timely content such as blog posts, while LinkedIn serves as a portal to distribute thought leadership content and articles for a business audience.
- **Web:** Our work on the backend of the website to bolster SEO and improve the design on our new pages proved impactful. Our top pages on the website ranked much higher on Google and next year, we will continue to implement better SEO to support our top pages and provide a better user experience on our website to new visitors.
- **Analyst Relations:** The Foundation took a targeted approach to Analyst Relations, focusing on messaging around the interoperability story, and clarifying use cases for Application Runtime, Container Runtime and other inflection points with Kubernetes. In 2019, we will continue this



## Marketing & Communications

focus, but with increased emphasis on deepening relationships between the Foundation and influential analysts and encouraging analysts to turn to Cloud Foundry for information and commentary about industry trends and developments.

### AREAS FOR IMPROVEMENT IN 2020

- **Member Engagement:** The Member Dashboard relies on participation from members. Activities and rewards will be updated to keep the program relevant and valuable to the members. A refresh of the Member Dashboard will strive to improve usability and provide content and rewards based on our high-level campaigns including Developer Experience, Training and Certification.
- **Digital Marketing:** The Foundation will use top-level priorities focused on Developer Experience, Community and Operational Efficiencies to drive our efforts in 2020 focusing on organic website content and user experience to drive our audience to relevant content.
- **Internal marketing strategy:** Integrated campaigns will be more explicitly developed to align our internal tactic execution.
- **SEO:** We will continue to utilize SEO best practices on new pages, ensure our top pages are performing well and tailor our SEO on each page as necessary.
- **Messaging:** Our messaging will be more explicitly focused on the enterprise developer, our key user persona and audience for growth. We will work with our community members to develop more technical content pertaining to developer interests and utilize new delivery systems (ie. public Slack) to reach a wider audience.
- **Certification Marketing:** Developer Certification and Training is key to unifying the worldwide developer community for Cloud Foundry. We will continue to promote new iterations of the curriculum and exam, and amplify the message of The growth of Cloud Foundry awareness at the enterprise developer level will increase economic value to the entire ecosystem.
- **Cloud Foundry Days:** In 2020, we will be refreshing our Cloud Foundry Days Kit and relying on members to host regional CF-branded pop-ups around the world to reach the widest possible audience.



- **Cloud Foundry Summit Results:** Total revenue for Summits was posted at \$1,817,260 for 2019. Cloud Foundry NA Summit in Philadelphia total revenue was \$1,193,300 and Cloud Foundry EU Summit in The Hague total revenue was \$623,960. Combined, these events ended at a total loss of \$240,000 for the year. Member support for these events is the only way they will continue to exist.
- **New members:** In 2019, three companies joined the Foundation as members. Wipro became the newest Gold member while GStack and SkySilk became Silver members.
- **Cloud Foundry PaaS Certification:** Seven distributions achieved Cloud Foundry PaaS Certification in 2019: Atos Cloud Foundry, Cloud.gov, IBM Cloud Foundry, Pivotal Cloud Foundry, SAP Cloud Platform, SUSE Cloud Application Platform and Swisscom Application Cloud.

### KEY LESSONS FROM 2019

- The type of company interested in joining Cloud Foundry Foundation is shifting. Some users remain engaged, while others have struggled to find a reason to remain involved thanks to close engagement with the distributions they are using on the commercial end.
- 2019 saw churn increase. North American and Europe-based companies remain the biggest contributors to membership.

### AREAS FOR IMPROVEMENT IN 2020

- Continued focus on expanding the Silver Membership tier with a mix of company sizes across multiple industries.
- Ensure current members understand the value of membership to their organization.
- Continue to develop high quality, accessible training and certification materials for developers building skills in the Cloud Foundry ecosystem.



## Foundation Operations

Member engagement and support duties have been split among Abby Kearns, Devin Davis, Paige O'Connor and Todd Benzies.

As a Foundation, we promoted three team members in 2019. See below for a detailed outline of our internal changes:

### Foundation Promotions

- Caitlyn O'Connell to *Senior Marketing Manager*
- Paige O'Connor to *Executive Administrator*
- Brie Rogers to *Digital Marketing Manager*

### Foundation New Hires

- Natalie Fine: *Meeting and Event Coordinator*

### KEY LESSONS FROM 2019

- Feedback from our members, via surveys, offered tremendous insights into what members value, and influenced our communication (such as the addition of a monthly AMA with the Foundation leadership) and engagement with members, as well as updates to our member benefits. This will continue to be a focus area in 2020.
- Remaining agile as an organization allows us to grow and evolve alongside our members.

### AREAS FOR IMPROVEMENT IN 2020

- Continued cross-collaboration across other technologies and projects.
- Focus on Community by working with contributors, members, and the broader community to engage and foster continued usage of ecosystem services and capabilities.
- Focus on Enterprise Developers and help define and clarify how Cloud Foundry simplifies enterprise developer workflows in the increasingly complicated cloud native landscape.



## Foundation Operations

### BUDGET V. ACTUALS V. VARIANCE 2019

REVENUE	2019 BUDGET	2019 ACTUAL	2019 VARIANCE
Membership	\$5,811,667	\$5,365,833	(\$445,834)
Event Sponsorship	\$2,700,000	\$1,817,260	(\$730,990)
Certification	\$300,000	\$350,000	\$50,000
Developer Certification + Training	\$244,000	\$30,251	(\$213,749)
<b>TOTAL REVENUE</b>	<b>\$9,105,667</b>	<b>\$7,859,191</b>	<b>(\$1,246,476)</b>

EXPENSES	2019 BUDGET	2019 ACTUAL	2019 VARIANCE
Marketing & Public Relations	\$1,870,000	\$1,427,467	\$442,533
Summits	\$2,800,000	\$2,311,398	\$488,602
Technology	\$167,000	\$126,357	\$40,643
Developer Certification + Training	\$140,000	\$202,910	(\$62,910)
Operations	\$852,000	\$652,701	\$199,299
Compensation	\$2,643,157	\$2,524,029	\$119,128
G&A	\$576,340	\$501,551	\$74,789
<b>TOTAL EXPENSES</b>	<b>\$9,048,497</b>	<b>\$7,746,412</b>	<b>\$1,302,085</b>
Holdover Deficit + General Reserve	\$469,708	\$469,708	\$0
<b>NET INCOME/LOSS</b>	<b>\$57,170</b>	<b>\$112,779</b>	<b>\$55,609</b>



## Conclusion

2019 was the year the Cloud Foundry ecosystem broke open to incorporate – loudly – other cloud native projects. As an open source foundation, we have always integrated new technologies into the Cloud Foundry suite of projects as they capture the minds of developers and evolve with use. This year, we were explicit about the ways in which Cloud Foundry harmonizes with other technologies, and our project teams pushed these technologies forward.

As we celebrate our fifth anniversary in 2020, we recognize the shift in the industry, as cloud technologies proliferate and developers race to keep up. In 2020, our key areas of focus will be:

- **Community:** Work with contributors, members and the broader community to engage and foster continued usage of ecosystem services and capabilities.
- **Enterprise Developers:** Support outreach and help define and clarify how Cloud Foundry simplifies enterprise developers' workflows in the increasingly complicated cloud native landscape.
- **Operational Efficiencies:** Do more directly, do less in general, while communicating forward progress.

Our vision is to ensure all our members and users are able to rely on Cloud Foundry for the long term. Cloud Foundry is used by enterprise developers in the majority of the Fortune 500, and we envision a future in which Cloud Foundry is baked into every cloud strategy at every major enterprise around the world.

We look forward to partnering with you – our community – to ensure this future.



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**Annual Report 2019**