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Blue Pages: Software as a Service Data Set

Asma Musabah Alkalbani*, Ahmed Mohamed Ghamry[†], Farookh Khadeer Hussain*, Omar Khadeer Hussain[†]

Decision Support and e-Service Intelligence Lab*

Quantum Computation and Intelligent Systems

School of Software, University of Technology

Sydney, NSW 2007, Australia

Email: Asma.M.Aikalbani@student.uts.edu.au, Farookh.Hussain@uts.edu.au

School of Business[†]

University of New South Wales Canberra (UNSW Canberra)

Australian Defence Force Academy

Canberra, ACT, 2602

Email: a.ghamry@unsw.edu.au, O.Hussain@adfa.edu.au

Abstract—Blue Pages is a repository that contains data collected on Software as a Service (SaaS). The repository lists SaaS information according to an organization's functional needs. Blue Pages holds thousands of records on SaaS applications' business profiles. The data was extracted between February 2015 and August 2015 from the following web portals: www.cloudreviews.com & www.getApp.com. Every record holds details on the service offerings, including service name, the date the service was founded, service category, free trial (yes/no), mobile app (yes/no), starting price, service description, service type and provider link. The dataset is the first to provide information on SaaS. The dataset presented in this paper can be used in future research in cloud service selection and cloud service discovery. The dataset is available online through the Blue Page website <http://www.bluepagesdataset.com/>.

Keywords—Cloud services, SaaS, Service Discovery, SaaS dataset, web harvesting.

I. INTRODUCTION

Cloud computing resources play a critical role in IT cost reduction, scalability and collaboration efficiency for business organizations by offering IT resources on-demand with marketplace cloud services classified in terms of the computing resources being provided, namely Software as a Service (SaaS), PaaS (Platform as a Service), IaaS (Infrastructure as a Service)[5]. Recently, there has been growing interest in the industry to adopt SaaS since it guarantees benefit through cost saving and increased productivity[3]. Figure 1 illustrates a comparative analysis, reported by Cisco, between different types of adopted cloud services, showing that SaaS applications will be the most highly deployed global cloud service by 2018.

With the increased adoption of SaaS, the amount of SaaS applications and service providers is extensive and unmanageable on the World Wide Web (WWW)[8]. Currently, the main major resource for discovering cloud services is web search engines such as Bing, Google, and Yahoo!. These search engines are useful for searching for cloud services, however, these engines are only designed to locate and point to the URLs of service offerings[6]. They can only do part of the work; the rest has to be done by consumers, such as scanning the content of each website to find the best service offerings,

and comparing the various service offerings. Also comparing service offerings, in terms of quality and price, is another concern of consumers. Web directories and web portals, such

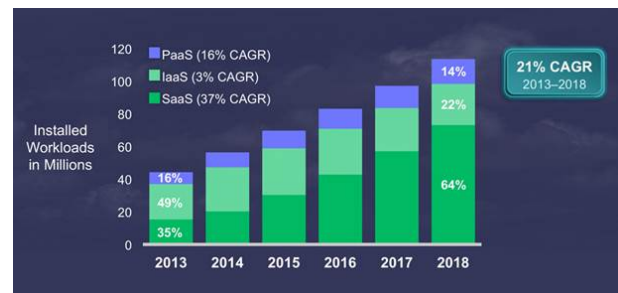


Fig. 1: SaaS most highly deployed cloud service by 2018

as www.getApp.com and www.cloudreviews.com, are other methods of collecting details on cloud service offerings and obtaining a list of matching cloud services[1][2]. For some of these websites, it is difficult to keep up with daily changes, such as fluctuations in price, while others, such as [getApp](http://getApp.com) continually update their service list. In the cloud marketplace, the main challenge faced by many researchers and consumers is the lack of a central cloud repository that provides a complete listing of the cloud services available in the market, where the end users can easily compare and select the most appropriate services.

Given the increasing use of SaaS in a number of disciplines, such as education, business, health, a central repository would be beneficial for both consumers and providers[4],[8]. The SaaS marketplace project aimed to investigate SaaS applications and providers on the World Wide Web (WWW). The objective of the project is to offer a real world SaaS offerings dataset called the Blue Page Dataset for future research. This dataset provides sufficient and complete information about each SaaS application offering.

To achieve our objective, we used a web harvesting technique. Web harvesting (web scraping) is a very well-known tool that offers solutions for searching and gathering web information[6]. It focuses on extracting unstructured informa-

tion from pages and data on the WWW. It complements the use of a search engine; the search engine usually locates the information web page and the web harvesting tool does the rest, such as organizing and gathering unstructured information from the web page source. For the purpose of this study, we develop a web scraper to collect details on SaaS offerings from web portals. After conducting a survey of several web portals, we found that there are two excellent resources for information on SaaS offerings namely: www.getApp.com, and www.cloudreviews.com.

We use the web scraping tool to collect meta descriptions of SaaS offerings from the web portals previously mentioned. The meta descriptions are used to extract specific content and meta keywords embedded in the web pages, such as information on SaaS offerings, and then build the SaaS dataset. The dataset contains the following information: service name, when the service was founded, service category, free trial(yes/no), mobile app(yes/no), starting price, service description, service type and provider link. At this stage of the project, we only harvest two portals, but we plan to harvest more web directories and portals in the future and provide an automated or semi-automated updating technique to cope with daily changes in the service offering in the cloud marketplace.

At this stage 1, the dataset contains more than five thousand details on real SaaS offerings harvested from the two well-known cloud web portals, previously mentioned. Additionally, based on the information collected on the SaaS applications, statistical analyses were performed to present the current status of SaaS applications and their providers in the marketplace.

The rest of the paper is organized as follows: *Section 2* describes the problems with existing datasets. *Section 3* discusses the methodology for collecting the dataset. *Section 4* describes the schema of the datasets. Concluding remarks are discussed in *Section 5*. Finally, the conclusion and future work are discussed in *Section 6*.

II. PROBLEMS WITH EXISTING DATASETS

According to the literature, there is only one study that presents a cloud services dataset [7]. Talal et al. presented three datasets, namely: the Main Cloud Service dataset, the WSDL & WADL dataset, and the Trust Feedback dataset. The Main Cloud Service dataset only provides a list of cloud service URLs with no further details, whereas the WSDL & WADL dataset provides a list of cloud services along with a service description language (WSDL). The Trust Feedback dataset presents the feedback of consumers on the Quality of Service (QoS) of the cloud service. This dataset includes consumer name and QoS feedback attributes, such as availability and price. Talal found that the majority of cloud providers provide IaaS (52.29%) compared with SaaS (27.08%) and PaaS (7.70%). However, this dataset does not provide sufficient information, for instance the customer name data value is “2d70d7269c514da2 ...”, and service name data value is “1and1”, and there is also a lack of corresponding service description and service type information. Furthermore, there is no mechanism by which the existing repository can be automated or updated, based on change to service offerings.

III. METHODOLOGY

Our methodology comprises three phases: metadata collection, web scraper tool, and repository. In the rest of this section, the details of each phase are given.

Phase 1. Metadata collection: The aim of this phase is to collect metadata on SaaS offers. We target two web portals: cloudreviews and getApp, which are excellent resources for SaaS offerings. We downloaded the whole SaaS offerings page source (metadata description). Then, the meta data description is stored in a local SQL database for further analysis.

Phase 2. Web scraper tool: In this phase, we develop a scraper tool to automatically extract information on SaaS offerings from the metadata description, downloaded in (Phase 1). We scraped specific meta tags from the SaaS offerings meta description to collect information on the SaaS offerings, such as (& raquo; *Free Trial* Yes)

Phase 3. Repository: In this phase, we build an SQL database to store the descriptions extracted on the SaaS offerings, obtained in (Phase 2). The database schema is discussed in detail in the next section.

The software technical specifications are:

- Platform: Net Framework 4.0 on Visual studio 2010.
- Web Server: IIS 6.0.
- Programming language: ASP.Net C.
- Database: SQL Server 2008 R2.

IV. DATASET DESCRIPTION

This intent of the Blue Pages dataset is to provide a complete dataset of SaaS offerings for consumers and researchers. Currently, the dataset has 5294 records and it consists of 5 main items, which are described as follows:

Database Item 1 (Table: MD Service). This item contains all the descriptions of the SaaS offering that were extracted from web portals, namely cloudreviews, and getApp. The attribute ‘*Id*’ represents the code for the SaaS service used in the Blue Page project. The ‘*Id*’ number is a unique number which is generated automatically for each service in the database. The ‘*StrServiceName*’ represents the name of the service, for example, the Desk.com application from Sales force. The attribute ‘*StrFounded*’ represents the service establishment date, for example, Desk.com was established in 2009. The attribute ‘*StrCategory*’ represents the type of service, such as data analytics or customer support. The attribute ‘*StrFreeTrial*’ denotes if there is a free trial available for this service. The attribute ‘*StrEditorRating*’ refers to the rating of the service by the end-user. The attribute ‘*StrStartingPrice*’ represents the starting price of the service according to the marketplace. The attribute ‘*StrBriefDescription*’ represents a brief description of the application, including the standard features of the service. The attribute ‘*StrServiceType*’ denotes the category of the service (for example a data analytics application belongs to the Business Intelligence group, and customer support belongs to the CRM. Figure 2. shows the schema of MD Service.

Database Item 2 (Table: Service Review) This table contains a listing of SaaS consumer reviews and feedback on

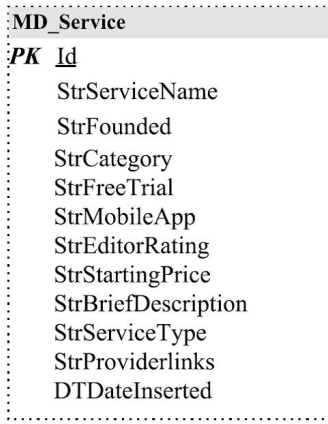


Fig. 2: Schema of the table for collected service

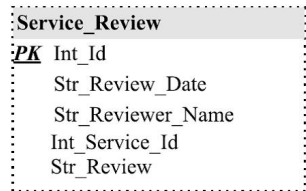


Fig. 3: Schema of the table for service review

the service. Figure 3. illustrates schema of Service Review table. The attribute ‘*Str Review Date*’ lists the date of the review while the attribute ‘*Str Reviewer Name*’ stores the name of the reviews and ‘*Str Review*’ presents the consumers’ reviews on each SaaS.

Data Model: Figure 4 illustrates the data model of our dataset. The dataset consists of two tables: ‘*MD Service*’ and ‘*Service Review*’. The former contains all the attributes of the SaaS offering descriptions, while the latter stores the service review information. As shown in the figure below, the relationship between the tables is 1-m multiple reviews for one service. Existing publicly available datasets only include the ‘*MD Service*’ while the ‘*Service Review*’ omitted from the dataset due to future research. Table 1 presents the sample of data in the ‘*Service Review*’ which will be released online in the second version of the Blue Pages Data Set.

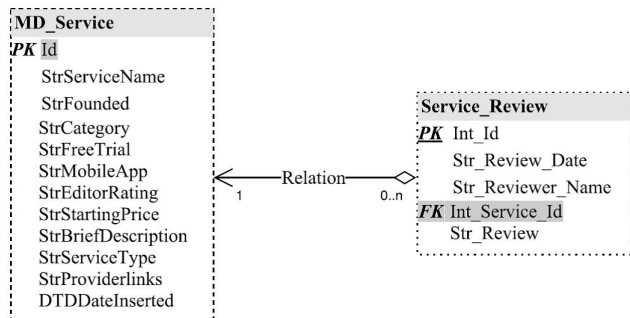


Fig. 4: Schema of the table for collected service

as needed to properly center the text within the cells

TABLE I: Service Review Sample Data

ID	Review Date	Reviewer Name	Service ID	Review
1	7th September, 2010 05:34	Jason H	154	super useful tool with great features
2	28th March, 2010 06:35	KWilliams	155	The guys at price grid are amazing. We required a custom solution to meet some of our goals. It was delivered quickly, with no effort on our end other than a few go to meeting's
3	31st August 16:59	Lee Schneider	160	If you really want to cover your bases, use Mention to monitor your clients, your competitors, and important keywords. There is no other app that tracks the web more completely. The reporting and status are great.

V. RESULTS AND ANALYSIS

An initial objective of our study is to develop a Blue Pages dataset and to provide to end users and research communities a complete and sufficient SaaS offerings dataset. This study presents the first version of the Blue Pages dataset, where there are currently 5294 items of service information collected from getApp and cloudreviews. Further, the analysis indicates the some emerging trends of SaaS applications in the marketplace, which is discussed in detail in the next section.

A. SaaS Classification

An interesting finding from the Blue Pages Data Set is that the SaaS applications are classified on the basis of organizational function, such as HRM, business intelligence, communication, business intelligence analytics, sales, HR employee management, customer management, collaboration applications and operations management. It can be seen from the data in (Figure.5) that the majority of SaaS applications are for management and collaboration, while a small number of applications are available for human resources, business intelligence and communication.

B. SaaS Mobile Application

Another important finding is that the result indicates that of the 5294 applications, only 1348 were reported as mobile applications. Figure 6 shows that 25% of the services offered are mobile applications.

VI. CONCLUDING REMARKS

In our study, we investigated the distribution of SaaS applications in the WWW. The results show that there are 5294 SaaS applications offered on two well-known web portals: getApp and cloudreviews. Some initial insights were presented



Fig. 5: SaaS Classification from Blue Pages Data Set

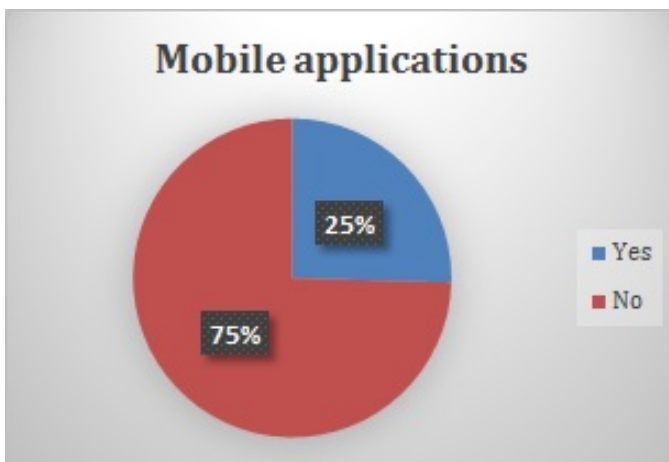


Fig. 6: Number of SaaS Mobile Application

as well. An interesting finding is that the SaaS applications are classified according to the organisation's functional needs. Such service statistics may assist market developers and the research community to examine the status of the current market and provide better SaaS applications and SaaS discovery solutions to discover SaaS solutions. Although UDDI is an existing approach for finding web services, for SaaS, it is unclear whether the market needs such a central repository or whether decentralized review portals will replace it.

VII. DATASET AVAILABILITY

The dataset discussed in this paper is publicly available at <http://www.bluepagesdataset.com/>

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Service Name	Founded	Category	Free Trial	Mobile App	Editor Rating	Starting Price	Brief Description	Service Type	Provider Link
Marketo Analytics	2007	Data Analytics	Yes	Yes	4	\$1195/month	Marketo offers a ma	Business Intelligence	http://www.marketo.com/
KISSmetrics	2009	Data Analytics	Yes	No	4	\$99/mo	KISSmetrics is an ide	Business Intelligence	https://www.kissmetrics.com/
SproutSocial	2010	Data Analytics	Yes	Yes	3	\$9/month	SproutSocial is a feat	Business Intelligence	http://sproutsocial.com/
Bime Analytics	2009	Data Analytics	Yes	Yes	3	\$180/mo	Bime analytics is a p	Business Intelligence	http://www.bimeanalytics.com/
Pentaho	2004	Data Analytics	Yes	Yes	3	N/A	Pentaho is a smart a	Business Intelligence	http://www.pentaho.com/
Yellowfin Analytics	2003	Data Analytics	Yes	No	3	\$3,000/yr	Yellowfin makes bus	Business Intelligence	http://www.yellowfinbi.com/
NetSuite	1998	Business Intelligence & Reporting	Yes	Yes	4	\$499/mo	NetSuite commender	Business Intelligence	http://www.netsuite.com/
InsightSquared	2010	Business Intelligence & Reporting	Yes	No	3	\$99/mo	InsightSquared is a v	Business Intelligence	http://www.insightsquared.com/
Cyfe	2012	Business Intelligence & Reporting	Yes	No	3	\$19,000/mo	Cyfe is a cloud based	Business Intelligence	http://www.cyfe.com/
Zoho Reports	2012	Performance Management	Yes	Yes	4	\$12,000/mo	Zoho Reports is a clc	Business Intelligence	http://www.zoho.com/reports/
ActiveReports Server	2011	Business Intelligence & Reporting	Yes	No	3	N/A	ActiveReports Serve	Business Intelligence	http://www.activereportsserver.com/
Cometdocs	2009	Document Management	Yes	No	3	N/A	Cometdocs is a comy	Collaboration	http://www.cometdocs.com/
Aspose	2002	Document Management	Yes	Yes	3	\$15,000/mo	Aspose is a cloud-ba	Collaboration	http://www.aspose.com/
Podio	2009	Collaboration Tools	No	Yes	3	\$9,000/mo	Podio offers the best	Collaboration	https://podio.com/
Bloomfire	2010	Collaboration Tools	Yes	Yes	4	N/A	Bloomfire cloud	Collaboration	http://www.bloomfire.com/
Spotlight	2012	Collaboration Tools	Yes	Yes	3	\$49,000/mo	Spotlight Cloud appli	Collaboration	http://www.spotlightppm.com/
HyperOffice	1998	Collaboration Tools	Yes	Yes	3	\$7,000/mo	HyperOffice was fou	Collaboration	http://www.hyperoffice.com/
docSTAR	1996	Document Management	No	No	3	N/A	Customized systems	Collaboration	http://www.docstar.com/
FileHold	2005	Document Management	Yes	Yes	3	\$3,750,00	FileHold is the cloud	Collaboration	http://www.filehold.com/
Sooner Workplace	2005	File Sharing	Yes	Yes	3	\$9,95/mo	Sooner Workplace of	Collaboration	http://www.sooner.com/
Nomadesk	2004	File Sharing	Yes	Yes	2	\$15,000/mo	Nomadesk is one of t	Collaboration	http://www.nomadesk.com/
Crate	2012	File Sharing	No	Yes	3	\$9,000/mo	Crate makes the hec	Collaboration	https://letscrate.com/
Vanilla Forums	2009	Online Community	Yes	No	4	\$49,000/mo	Vanilla Forums allow	Collaboration	http://vanillaforums.com/
Qhub	2004	Online Community	Yes	No	2	\$19,000/mo	Qhub allows you to c	Collaboration	http://www.shareasale.com/r.cfm?b=417629
Write	2004	Productivity Suite	Yes	Yes	4	\$49,000/mo	Write allows you to	Collaboration	http://www.write.com/
Huddle	2006	Productivity Suite	Yes	Yes	3	\$20,000/mo	Huddle offers you a	Collaboration	http://www.huddle.com/
Mobiso	2007	Call Accounting	Yes	Yes	3	N/A		Communication	http://www.mobiso.com/
Anneyo	2003	Call Accounting	Yes	No	1	N/A		Communication	http://www.drisht-soft.com/
8x8	2008	Call Center	Yes	Yes	3	\$19,99/month		Communication	http://www.8x8.com/
simplyCT	N/A	Call Center	Yes	No	3	\$80/mo		Communication	http://www.8x8.com/
Paperport	N/A	Digitizer	No	Yes	3	\$199,99		Communication	http://freetrialsimplyct.com/
EGGridOS	2001	Electronic Data Interchange (EDI)	Yes	Yes	3	\$99,000/month		Communication	http://www.nuance.com/for-business/by-pro
Babelway	1994	Electronic Data Interchange (EDI)	Yes	Yes	1	\$49,000/month		Communication	https://www.babelway.net/SelfService3/
Mailjet	2011	Email Management	Yes	Yes	2	\$7,49/month	Mailjet is an amazing	Communication	https://www.mailjet.com/
MyFax	1998	Fax Server	Yes	No	3	\$10/mo		Communication	http://www.myfax.com/
Sfax	1961	Fax Server	Yes	Yes	2	\$24,00/year		Communication	http://www.sfaxme.com/
MightyCall	2001	IVR	No	Yes	3	\$9,99/month		Communication	http://mightycall.com/
Market Dialer	2006	IVR	Yes	Yes	3	\$149,000/month		Communication	http://www.safesoftsolutions.com/products/
Grasshopper	2003	Messaging & Communication	No	Yes	2	\$12,000/month		Communication	http://grasshopper.com/
Synchroteam	2005	Mobile	Yes	Yes	3	\$37,27/mo		Communication	http://www.synchroteam.com/
ClickMeeting	2008	Video Conferencing	Yes	Yes	3	\$8,95/mo		Communication	http://www.clickmeeting.com/free_signup.htm
InterCall	1991	Video Conferencing	Yes	No	3	\$39/mo		Communication	http://www.intercall.com/
Phonebooth	N/A	VoIP	No	No	3	\$20,000/mo		Communication	http://www.phonebooth.com/
WebExpenses	2000	Wireless Expense Management	Yes	Yes	3	\$111,69/mo		Communication	http://www.webexpenses.com/
CD Messenger	N/A	Wireless Expense Management	Yes	No	1	\$26,00/year		Communication	http://www.cdmessage.com/
HappyFox	2011	Customer Support	Yes	Yes	3	\$9,000/mo	HappyFox is a simpl	CRM	https://www.happyfox.com/
Freshdesk	2010	Customer Support	No	Yes	4	\$16,000/mo	After one year of dev	CRM	http://www.freshdesk.com
BookedIN	2009	Appointments and Scheduling	Yes	Yes	3	\$20,000/mo		CRM	http://getbookedin.com/
Bookeo Appointments	2008	Appointments and Scheduling	Yes	No	2	\$14,95/mo		CRM	http://www.bookeo.com/
Infusionsoft	2004	Online CRM	Yes	No	2	\$199,000/month		CRM	http://www.infusionsoft.com/
Desk.com	2009	Customer Support	Yes	Yes	3	\$3,000/month		CRM	http://www.desk.com
TeamSupport	2008	Feedback Management	Yes	Yes	2	\$20,000/month		CRM	http://www.teamsupport.com/
FluidSurveys	N/A	Feedback Management	Yes	Yes	1	\$17,000/month		CRM	http://fluidsurveys.com
LiveChat	N/A	Live Chat	Yes	No	2	\$36,000/month		CRM	http://www.livechatinc.com
HelpOnClick Live Chat	2004	Live Chat	Yes	Yes	1	\$19,000/month	Who does not want t	CRM	http://www.helponclick.com/
Turbine	N/A	Expenses Management	Yes	Yes	1	8,000/mo	Xero was founded in	Finance & Accounting	http://turbinehq.com/
Xero	2006	Accounting	Yes	Yes	4	\$19,000/month		Finance & Accounting	http://www.xero.com

Fig. 7: list of SaaS applications offers

ZenCash	2011	Debt Collection	No	Yes	4	\$1.95/mo	ZenCash is cloud bas	Finance & Accounting	http://www.zencash.com
FinancialForce Account	2009	Accounting	Yes	Yes	3	N/A		Finance & Accounting	http://online-accounting.financialforce.com/
OffServ	2010	Asset Management	Yes	Yes	4	\$9.00/month		Finance & Accounting	http://www.offiserv.com/
Portfolio Valuation	N/A	Asset Management	Yes	No	3	\$22.00		Finance & Accounting	http://www.business-spreadsheets.com/portt
Zoho Invoice	1996	Billing and Invoicing	Yes	Yes	3	\$15.00/month		Finance & Accounting	https://www.zoho.com
Jobber	2010	Billing and Invoicing	Yes	Yes	3	\$29.00/month		Finance & Accounting	https://getjobber.com/about
Yanomo	2010	Budgeting	Yes	Yes	3	\$5.00/month		Finance & Accounting	http://www.yanomo.com/
PlanGuru	N/A	Budgeting	Yes	Yes	3	\$399.95		Finance & Accounting	http://www.planguru.com/
ExpenseCloud	2008	Expenses Management	Yes	Yes	3	\$10.00/month		Finance & Accounting	https://www.expensecloud.com
NetSuite Financials	1998	Financial Reporting	Yes	Yes	3	\$499.00/month		Finance & Accounting	https://www.netsuite.com/
ProjectionHub	2012	Financial Reporting	No	Yes	3	\$15.00		Finance & Accounting	http://www.projectionhub.com/
GHG Corporation	2012	Human Resources	Yes	Yes	2	N/A	GHG Corporation is s	HRM	http://www.ghg.com/
WorkforceGrowth	2010	Performance Appraisal	Yes	Yes	3	\$5.00/mo	WorkForceGrowth c	HRM	http://www.workforcegrowth.com
Zartis	2011	Applicant Tracking / Recruitment	No	No	3	\$9.95	Zartis is an	HRM	http://www.zartis.com/
BamboohR	2008	Applicant Tracking / Recruitment	Yes	Yes	1	\$49.00/month		HRM	http://www.bamboohr.com/
ZenPayroll	N/A	Payroll / Benefits Administration	Yes	Yes	3	\$29.00/month		HRM	https://zenpayroll.com/
Intuit Online Payroll	1983	Payroll / Benefits Administration	Yes	No	2	\$25.00/month		HRM	http://payroll.intuit.com/
TribeHR	N/A	Human Resources	Yes	No	2	\$2.00/month		HRM	http://tribehr.com/
Recruiterbox	N/A	Human Resources	Yes	No	2	\$60.00/month		HRM	http://recruiterbox.com/
Clock.in	N/A	Mobile	Yes	No	2	\$19.95/mo		HRM	http://www.clock.in/
ManageEngine AssetEx	2009	IT Asset Management	Yes	Yes	3	\$9.00/month	ManageEngine on-de	IT Management	http://ondemand.manageengine.com
ImageRelay	2002	Digital Asset Management	Yes	Yes	3	\$99.00/month		IT Management	http://imagerelay.com/
Canvas	N/A	Data Entry	Yes	Yes	3	\$20.00/mo		IT Management	http://www.gocanvas.com/
Ecquire	N/A	Data Entry	Yes	Yes	4	\$19.00/mo		IT Management	http://www.ecquire.com/
GoCodes	N/A	IT Asset Management	Yes	Yes	3	\$99.00		IT Management	http://www.goqr-code-asset-tag.com/
eBLVD Remote Desktop	2001	Remote Support	Yes	Yes	4	\$7.50		IT Management	http://www.eblvd.com
Techniline	2006	Remote Support	Yes	Yes	4	Subscription		IT Management	http://www.techniline.com/
SmartSignin	N/A	Security	Yes	Yes	4	\$2.00/mo		IT Management	https://www.smartsignin.com/
WatchDox	N/A	Security	No	Yes	4	\$15/mo		IT Management	https://www.watchdox.com/
CloudWork	N/A	Cloud to Cloud	Yes	No	2	\$9.99/month	CloudWork is a cloud	Integration Solutions	https://cloudwork.com/
SnapLogic	N/A	Cloud to Cloud	No	No	2	\$9995.00/year		Integration Solutions	https://www.snaplogic.com/
Mule ESB	2003	Application Connectors	Yes	No	1	N/A	Mule ESB is one of th	Integration Solutions	http://www.mulesoft.com
CloudHub	2003	Application Connectors	Yes	No	2	\$500.00/month	CloudHub from Mule	Integration Solutions	CloudHub
ActiveCampaign	N/A	Social Media	Yes	Yes	3	\$9.00/mo	ActiveCampaign brir	Marketing	http://www.activecampaign.com/?_r=9R9Z11
LearnUpon	2010	Online Survey	Yes	Yes	3	\$99/mo		Marketing	http://www.learnupon.com/
The PDF Chef	2010	Presentation	No	No	3	N/A		Marketing	http://www.thepdfchef.com/
SmartDraw	1994	Presentation	No	Yes	1	\$197		Marketing	http://www.smartdraw.com/
Vocus	2011	Public Relations	No	No	2	N/A		Marketing	http://www.vocus.com/
uberVU	N/A	Public Relations	No	No	3	\$499.00/mo		Marketing	http://www.ubervu.com/
Marin Software	2006	SEO / SEM	Yes	Yes	3	\$500.00/month		Marketing	http://www.marinsoftware.com/
Kenshoo	2000	SEO / SEM	No	No	2	N/A		Marketing	http://www.kenshoo.com/
MediaFunnel	1999	Social Media	Yes	Yes	1	\$15.00/mo		Marketing	http://mediafunnel.com/
Eloqua	1999	Campaign Management	Yes	No	3	\$2,000	Eloqua is an email m	Marketing	http://www.eloqua.com/
HasOffers	2009	Ad Networks	Yes	Yes	4	\$99.00/mo	HasOffers is the high	Marketing	http://www.hasoffers.com/
Adcore	2006	Ad Networks	Yes	Yes	1	\$14.99/mo	AdCore, an advance	Marketing	http://go.adcore.com/
North Social	2006	Advertising	No	Yes	3	\$2.99/day	In a nutshell, North S	Marketing	http://northsocial.com/
AgileBid	2010	Advertising	Yes	No	1	\$49.95/mo	AgileBid is the most	Marketing	http://www.agilebid.com/
Ambassador	N/A	Affiliate Marketing	No	Yes	1	\$99/mo	Ambassadors provid	Marketing	https://getambassador.com/
Mobile App Tracking	2003	Affiliate Marketing	No	Yes	1	\$2,000/mo	Mobile App tracking i	Marketing	http://www.mobileapptracking.com/
HootSuite	2008	Brand Management	Yes	Yes	3	\$9.99/mo	HootSuite is a must to	Marketing	http://hootsuite.com/cj/d=signup-pro
SproutSocial	2010	Brand Management	Yes	Yes	4	\$9.00/mo	SproutSocial is a lea	Marketing	http://sproutsocial.com/
ion	2010	Campaign Management	Yes	No	1	\$1295.00/mo		Marketing	http://ioninteractive.com/
Pinpointe	2008	Email Marketing	No	Yes	1	\$49/mo		Marketing	http://www.pinpointe.com/
Impactia	2011	Email Marketing	Yes	Yes	4	\$70.00/mo		Marketing	http://impactia.com/

Fig. 8: list of SaaS applications offers