

PCF Setup Information

- [References](#)
- [History](#)
- [Contacts](#)
- [Tasks](#)
- [Detailed Project Plan](#)
- [PCF Data Collector DBS.xlsx](#)
- [Risks](#)
- [Tools and CI/CD Pipeline](#)
- [PCF Reference Architecture](#)
- [Role and Responsibility](#)
- [Cost based on CI/CD, Workflow, Workbench, ACRR, FRR, EPM \(Dev, Test, UAT and Prod Environments\)](#)
- [Notes](#)

References

- [PCF Security in DBS](#)
- [Developer Environment Software Installation Steps](#)
- [PCF Permission and Quota Plan setup](#)

History

No	Version	Author	Comments
1	0.1	Kian Hong, Ben and Bryan	Initial draft
2	1.0	Carl Daver	Updates.

Contacts

No	Team	Contacts
1	CST Architecture (Devops)	Carl Daver, Alex Lim, Shivendra Chobey, Moiz Khan, Nibedita P
2	TS Cloud Services	Choon Boon
3	Security	Judy Chih Mei HONG, Jeffrey Boon Choon KOH
4	Pivotal	Kapil Shukla <kshukla@pivotal.io>, Derek Sim <dsim@pivotal.io>, Carlos Queiroz <cqueiroz@pivotal.io>

Tasks

#	Task	Who?	Status	Comments
1	Setup meeting with Choon Boon to discuss timeline and usage of DDC for Dev Environment.	Ben, Kian Hong	COMPLETED	
1.1	Sizing of the SG Production, Indo Production and Development setup in term of CPU, RAM and SAN. Provide the sizing to Choon Boon for planning and allocation. Choon Boon confirm he is able to provide the Dev/SIT/UAT and CI/CD environment for CST to start the installation upon CST approval to proceed.	Kian Hong, Bryan	COMPLETED	

1.2	<p>Get agreement with Security and ID management on the management of PCF Admin and Function ID.</p> <p>Integration to CyberArk for PCF to draw ID to access VM resource e.g. database</p> <p><u>1 Jun meeting</u></p> <p>PCF do not have two factor authentication(2FA). This can be mitigate with Critix as suggested by Choon Boon. Request to enhance PCF to have two factor to be raise to PCF engineer for consideration. 2FA is not a show stopper</p>	Kian Hong, Ben	COMPLETED	
1.3	<p>Resource from Choon Boon and PCF to install and setup the Development</p> <p>Choon Boon confirm that he is able to provide 1 person part time to support the installation</p> <p>PCF resource Carlos is available immediate.</p>	Choon Boon, PCF Derek	COMPLETED	
2	<p>Update spreadsheet on number of AI, SI and VM needed for CI\CD and Dev, Functional Test, Regression Test, UAT and Prod.</p>	Bryan	COMPLETED	
3	<p>Update list of software needed for CI\CD, monitoring and logging with licenses info including pricing.</p> <ul style="list-style-type: none"> • AppDynamics for monitoring? • Splunk for logging? • Sonar for sacnning? <p>Use ELK</p>	Bryan, Ben	COMPLETED	
4	<p>Update CI\CD Diagram with info from item #2 and #3 above.</p>	Bryan, Ben	IN PROGRESS	
5	<p>Setup meeting with Security, Choon Boon, Sabu and PCF on questions from Security Team as in Risks Section below.</p> <p>1st Meeting on 26 May</p> <p>2nd Meeting on 1 Jun to close point raise by Security and include ID Management in discussion.</p> <p>PCF to provide list of Admin and Functional ID needed and best practice on management in a Cloud CI/CD environment</p>	Kian Hong/Ben PCF Derek	COMPLETED	
6	<p>Setup high-level plan.</p> <p>Derek to provide task list for installation of Development PCF environment</p>	Ben, Kian Hong	COMPLETED	
7	<p>Risks and Issues register as below.</p>	Ben, Kian Hong, Bryan	IN PROGRESS	
8	<p>Procure VMs for CI\CD</p>	Ben	IN PROGRESS	
9	<p>Procure licenses for software</p>	Ben	IN PROGRESS	
10	<p>PCF installation</p>	PCF	IN PROGRESS	
11	<p>To identify resource to play the role of PCF Platform Operator</p>	Management	IN PROGRESS	
12	<p>To get list of applications to be installed in laptop in order to play all 4 roles in table below.</p>	Ben, Bryan, PCF	COMPLETED	
13	<p>Put applications in 12 to AppStore.</p>	Bryan, AppStore Lead	COMPLETED	
14	<p>To define ASG policy for RESTful Service, Message Queue and File Transfer.</p>	PCF Operator (Choon Boon and Sabu)	NOT STARTED	
15	<p>To define access matrix for Test and UAT environments.</p>	PCF Operator (Choon Boon and Sabu) & Security	NOT STARTED	
16	<p>Platform Operator ID Management - we'll need 2FA for this via SAML2.0 compliant system (Siteminder, octa, PingIdentity).</p> <ul style="list-style-type: none"> • We'll need to build or setup the latter; or • To investigate PCF local UAA can do the job. 	All to investigate.	NOT STARTED	

17	To provide a list of operations that each role can do and to be reviewed by Security,	Carlos (PCF) to send, Security to review.	NOT STARTED	
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Detailed Project Plan

- Plan: [Development Environment Setup](#)
- Reference:
 - [DBS_Dojo_Dev_Estimates_DRAFT-0.3_updated.xlsx](#)

Installation instruction

Docs: <http://docs.pivotal.io/pivotalcf/1-7/installing/pcf-docs.html>

Software for PCF installation.

To download software: <https://network.pivotal.io>

PCF Data collection for installation

PCF Data Collector DBS.xlsx

[dbs_pcf_deployment.pptx](#) - PCF Deployment Infrastructure Design

PCF sizing

[PCF_sizing_v2.xlsx](#)

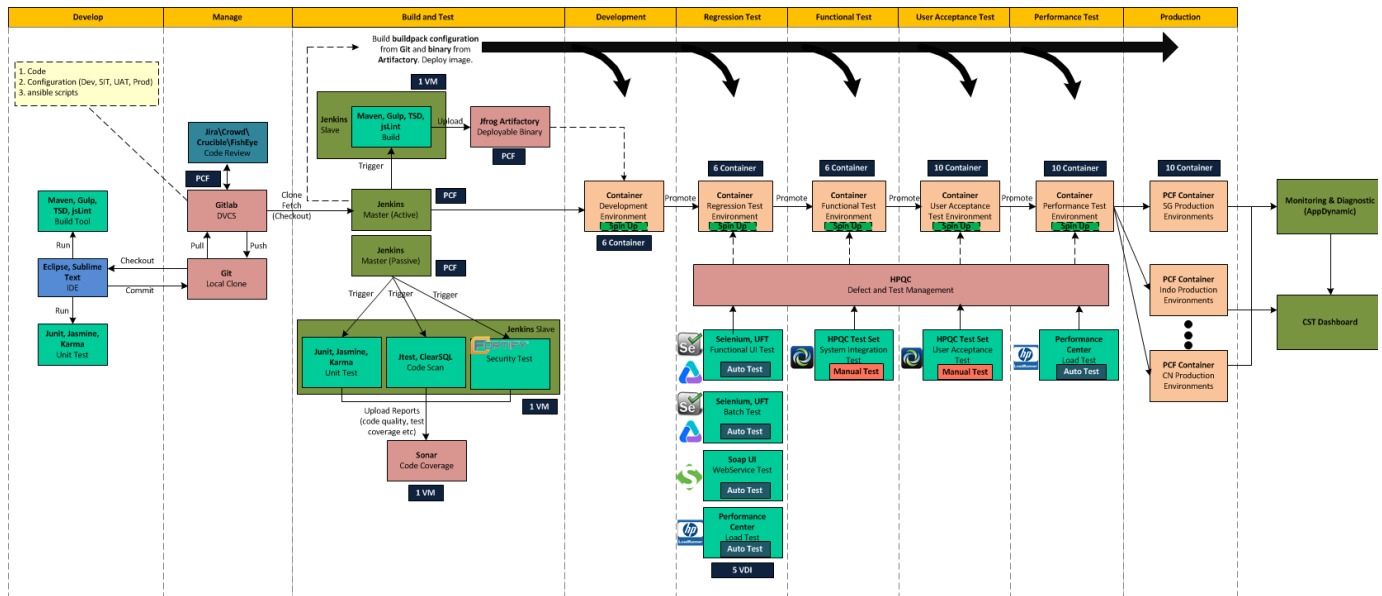
[PCF Hardware Cost_v0.2.7.xlsx](#)

Risks

#	Items	Mitigation
1	<p>Concerns from Security Team:</p> <ol style="list-style-type: none"> 1. I am still concerned about hardening. This PAAS piece cannot be treated as a black box. We need to have an idea of what it is running and harden the unnecessary services and insecure configuration. Even for VPC, Choon Boon has advised that hardening is still carried out. 2. The user ID administration and management. I will need Jeffrey's participation in this. What are the user IDs created and how can we manage the user authentication and administration, especially for the powerful IDs? I understand that the vendor does not support 2FA, which is our security baseline for powerful IDs. 3. Ongoing support and management. The operating model needs some clarification. 	<ul style="list-style-type: none"> • We have organised a meeting between PCF, CST and Choon Boon to sort out all concerns on security. • Bryan, Ben and Kian Hong to map out all security roles with PCF on 31st May 2016. • Choon Boon will front security as aspect of PCF and will work with Seng Wei.
2	<p>Managing IaaS for PCF.</p> <ol style="list-style-type: none"> 1. Choon Boon mentioned resource constraint on managing IaaS moving forward. Please note installation of PCF will be taken care of by vendor. 	<ul style="list-style-type: none"> • Choon Boon will provide 1 resource to setup and manage PCF with Pivotal's resources. However, this resource will not be full-time. • Suggestion is for CST to provide a resource to work together with Choon Boon's resource.

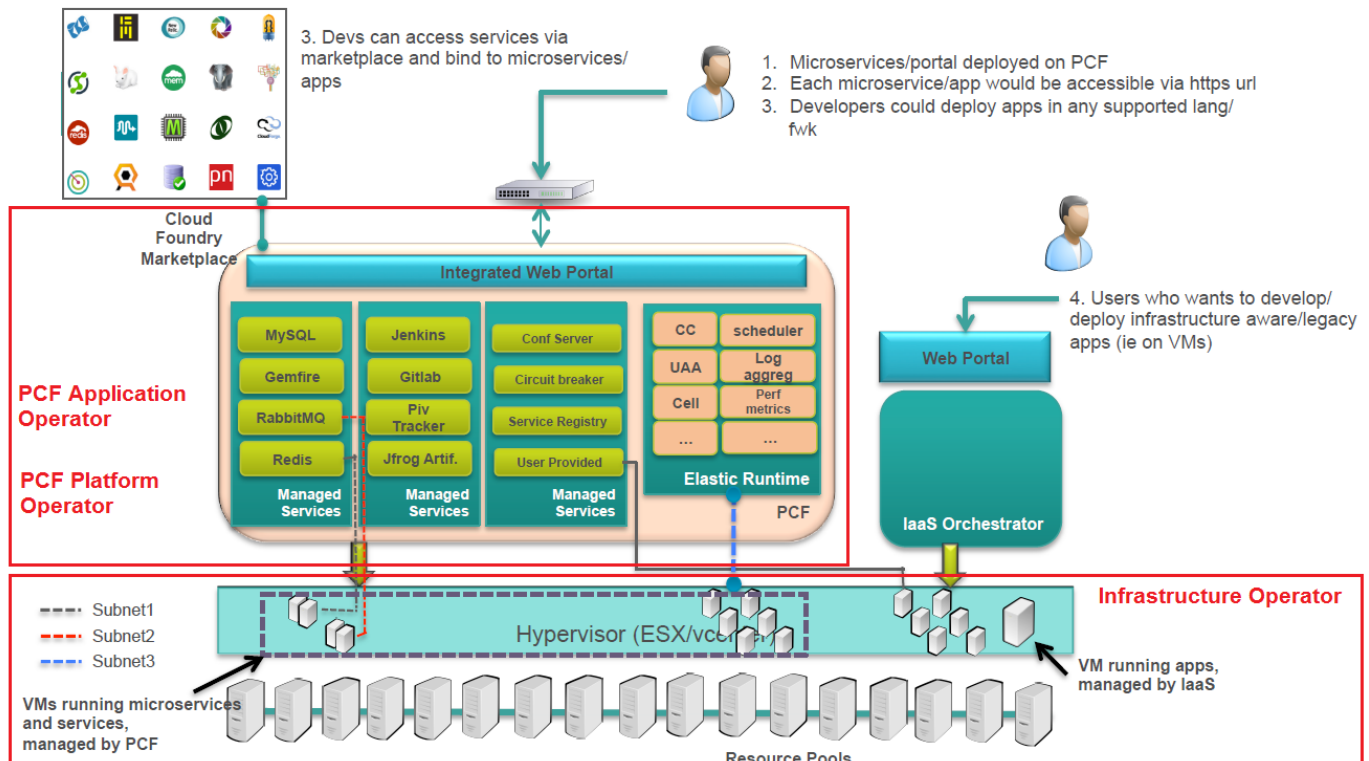
Tools and CI/CD Pipeline

Diagram below need to be updated.



PCF Reference Architecture

PCF Reference Architecture (development)



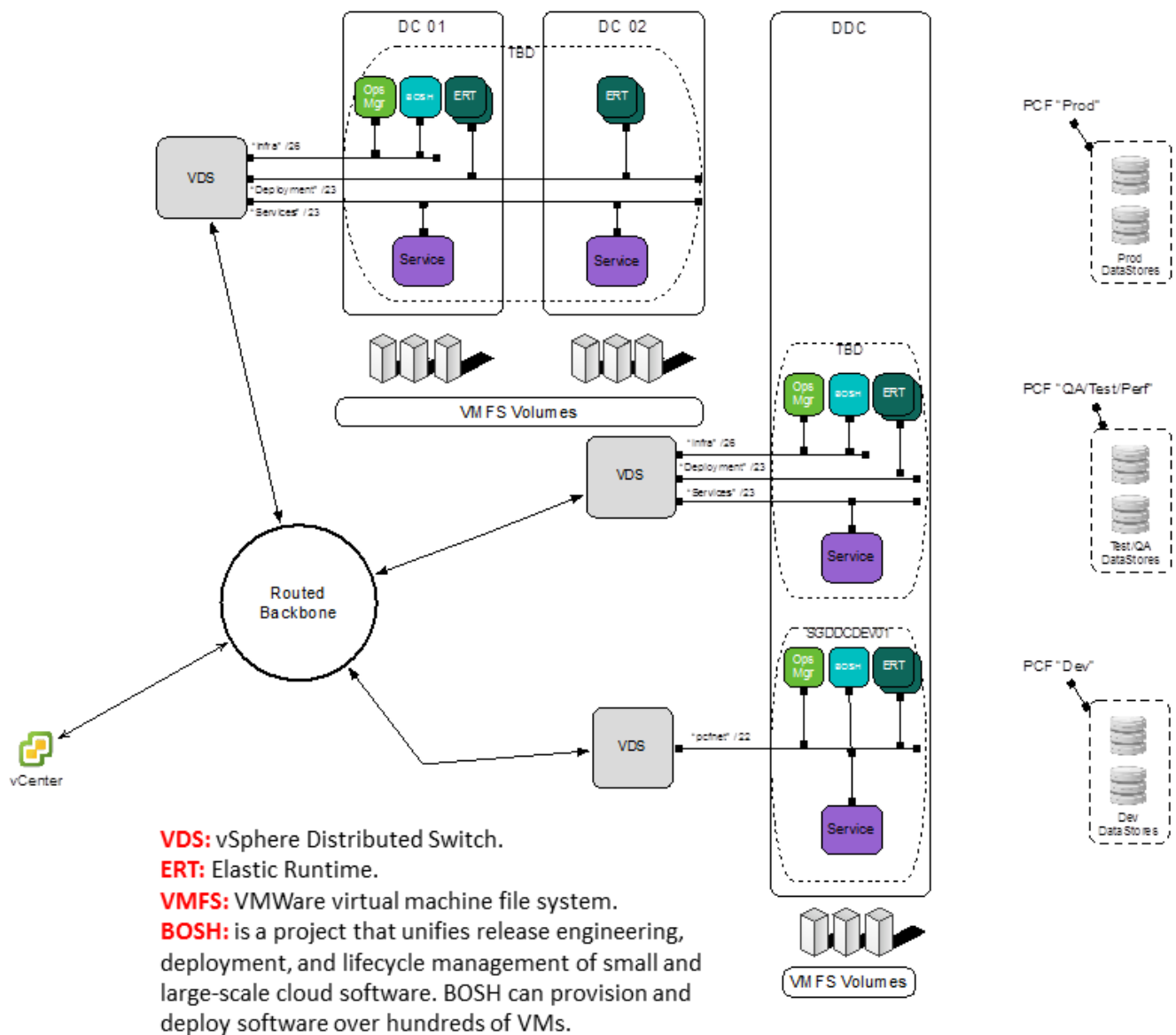
Role and Responsibility

- Detail can be found here: [PCF-Best Practices](#)

No	Role	Responsibility
1	Infrastructure Operator (Choon Boon's Team)	Installing, Maintaining, Monitoring, Upgrading, Patching and Securing: <ul style="list-style-type: none"> vSphere cluster via vRealize Operations, and adjusting hypervisors, clusters, and datastores to make sure there is enough vCPU, RAM, and I/O throughput in the cluster to meet SLAs.
2	PCF Platform Operator (?? To be decided)	Installing, Maintaining, Monitoring, Upgrading, Patching and Securing: <ul style="list-style-type: none"> PCF Ops Manager VM Elastic Runtime OpsMetrics MySQL RabbitMQ Spring Cloud Services Pivotal SSO Session State Caching Gitlab, Jfrog, Jenkins Any other tiles/services needed by customer/partner
3	PCF Application Operator (CST Architecture, DevOps Team)	<ul style="list-style-type: none"> Managing application environment including creation and organizing space. Responsible for CI\CD and blue green deployment. Tool-smithing for the development team, including: scripts, custom service brokers, git hooks & submodule scripts Maintain database migration scripts / frameworks (e.g. Flyway or Liquibase) Guide developers on database usage and performance (SQL, etc.) Manage the source control, asset, and artifact repositories for the application Ensuring unit, functional, and load test automation services are available for the application
4	PCF Application Developer (respective application development team)	Perform software development via 12 factor apps. Check-in and check-out source code from GitLab.

Cost based on CI\CD, Workflow, Workbench, ACRR, FRR, EPM (Dev, Test, UAT and Prod Environments)

Detail in "Hardware Cost"



	Cap Only	Common	CAP+Common
SG Prod			
VM + SAN	30,308.48	10,946.32	41,254.80
PCF	63,258.39	103,211.07	166,469.46
AI	11400	6000	17400
SG Test (PROD Like)			
VM + SAN	49,234.26	23,522.20	72,756.46
PCF	136,423.42	39,986.18	176,409.60
AI	34800	12000	46800
ID Prod			
VM + SAN	26,075.90	-	26,075.90
PCF	50,491.85	75,737.77	126,229.62
AI	6000	0	6000
ID DR			
VM + SAN	26,075.90	-	26,075.90

PCF	50,491.85	75,737.77	126,229.62
AI	6000	0	6000
SG Dev to UAT			
VM + SAN	33,426.42	27,855.35	61,281.77
PCF	45,150.33	113,271.87	158,422.20
AI	17,100.00	9,000.00	26,100.00
Total:	586,236.80	497,268.53	1,083,505.33

Notes

1. Access to application in container via NATed e.g. application can not see real IP of client. This should be take note during design and develop audit.
2. There are applications require windows env to run (HPQC) so we need some windows Jenkins slave.