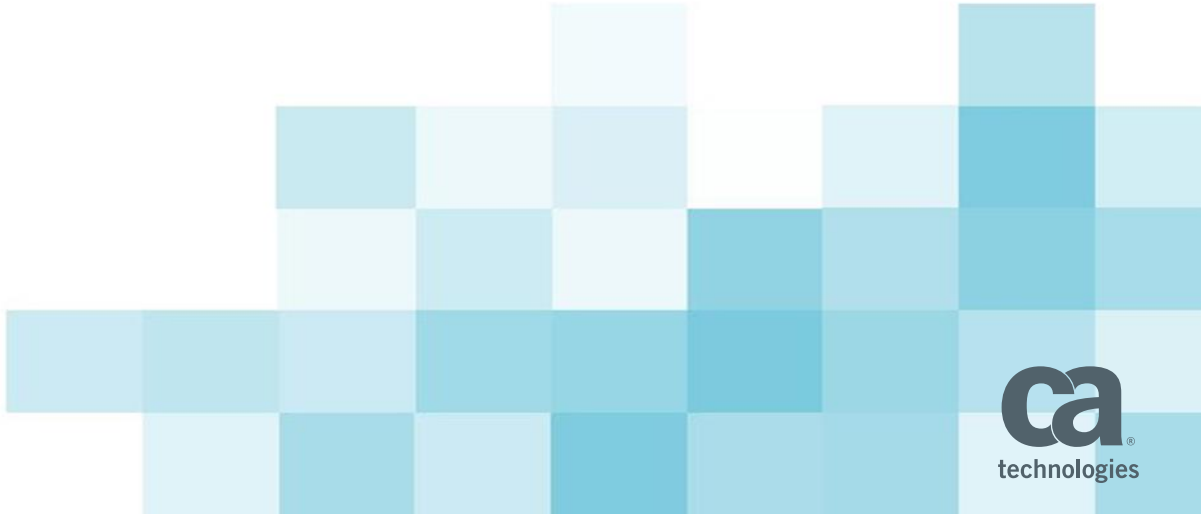


# Project Whetstone Status Update

Use cloud native technology to  
deploy in minutes and operate at scale

**29 Apr 2016**



# For Informational Purposes Only

## Terms of this Presentation

© 2016 CA. All rights reserved. All trademarks referenced herein belong to their respective companies. The presentation is intended for information purposes only and does not form any type of warranty. Some of the specific slides with customer references relate to customer's specific use and experience of CA products and solutions so actual results may vary.

Certain information in this presentation may outline CA's general product direction. This presentation shall not serve to (i) affect the rights and/or obligations of CA or its licensees under any existing or future license agreement or services agreement relating to any CA software product; or (ii) amend any product documentation or specifications for any CA software product. This presentation is based on current information and resource allocations as of January 1, 2016, and is subject to change or withdrawal by CA at any time without notice. The development, release and timing of any features or functionality described in this presentation remain at CA's sole discretion.

Notwithstanding anything in this presentation to the contrary, upon the general availability of any future CA product release referenced in this presentation, CA may make such release available to new licensees in the form of a regularly scheduled major product release. Such release may be made available to licensees of the product who are active subscribers to CA maintenance and support, on a when and if-available basis. The information in this presentation is not deemed to be incorporated into any contract.

# Agenda

1

**GOALS**

2

**DELIVERY MODEL**

3

**USE CASES**

4

**STATUS OF PRODUCTS**

5

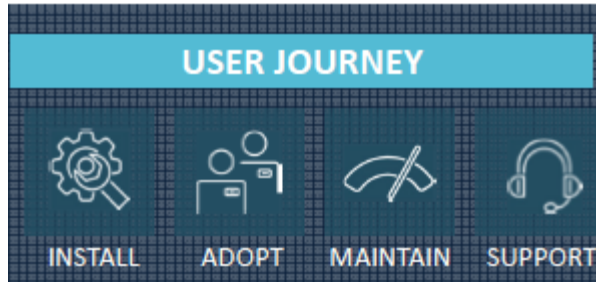
**TECHNICAL PREVIEW**

6

**SUMMARY**

# The User Journey

- CA is traditionally good at selling (The **Buyer Journey**)
- CA is traditionally poor at CX (The **User Journey**)
  - Install, Adopt, Maintain, Support
- Key **User Journey** challenges we have to improve for CX:
  - **Large platform support matrix**: hard for engineering to test, hard to support
  - **Complex installations**: difficult for customers to deploy & maintain
    - Limits new NCV opportunities in channel markets
  - **Fragile upgrade process**: every deployment environment is different



# Containers and The User Journey

- **Reduced support matrix (SSO has 35+):** Use shared base containers aligned across products
- **Container platform (Kubernetes):** Run anywhere, reducing complexity
- **Cloud & private data center ready:** AWS, Azure, Google, VMware
- **No installations, only downloads:** What we build and test is what the customer runs
- **Separation of data/config from binaries:** Easier to debug. Easier to support. Easier to patch
- **Central logging capability:** Kubernetes has built in Elasticsearch, Logstash, Kibana (ELK) support
- **Remote Engineer:** Containerized component can be built for all products to use
- **Rolling Upgrade/Rollback support:** Kubernetes natively provides this capability

# So I licensed a CA Security product

How do I use it?

## Infrastructure

Choose where you run your products: on-premises or cloud.

## Configuration

Fill in the blanks for required settings.

Structured configuration file\* for all the advanced options.

Fully extensible for custom data and modules.

## Runtime

High Availability is pre-configured.

Elastic scale-up and scale-down is built-in.

Rolling upgrade\* is built-in.

Public services are exposed on known ports.

Integrates with existing systems.

\* We're working on this right now

# Infrastructure

Same functionality, multiple infrastructures

## Deploy CA Technologies Container Software to your Local Data Center or Cloud Service

A Container Appliance will be generated for you at your data center or at an industry leading cloud provider.

A Container Console will be accessible within the Container Appliance that will allow you to quickly deploy CA Container Software.

Local Data Center  
**vmware**  
**VirtualBox**

 **Google**  
Cloud Platform

 **amazon**  
web services™

 **Windows**  
Azure

Want to run the Container Appliance on other platforms? [Ask us](#)

# Infrastructure

When you prefer virtual machines...

Container Appliance Generator

Tim Hobbs

## Create Your Appliance

Master

Hostname

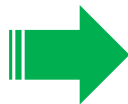
Name of the machine

mymaster

Basic Advanced

CREATE

Copyright © 2016 CA. All rights reserved.



Container Appliance Console

## Deploy a solution

Search for a solution

CA Advanced Authentication CA Directory CA Identity Suite CA Single Sign-On

**CA Directory 12.0.15.g ForwardInc**  
CA Directory is a high performant LDAP and X.500 directory. It has industry proven support for replication, distribution, high availability and reliability. This solution demonstrates the fictional ForwardInc organization.  
Deployed DEPLOY

**CA Directory 12.0.16.g ForwardInc**  
CA Directory is a high performant LDAP and X.500 directory. It has industry proven support for replication, distribution, high availability and reliability. This solution demonstrates the fictional ForwardInc organization.  
Deployed DEPLOY

**CA Identity Suite 12.6.07.g ForwardInc**  
Increase user productivity and business flexibility with user provisioning & identity management. Demonstration of CA Identity Suite with the ForwardInc organization.  
Deployed DEPLOY

**CA Single Sign-On 12.52.01.ga**  
Enterprise-class secure single sign-on (SSO) and flexible identity access management so that your organization can authenticate users and control access to Web applications and portals.  
Deployed DEPLOY

Copyright © 2016 CA. All rights reserved.



# Infrastructure

When you prefer the Amazon cloud...

## Create your Appliance on Amazon Web Services

### Pre-requisites:

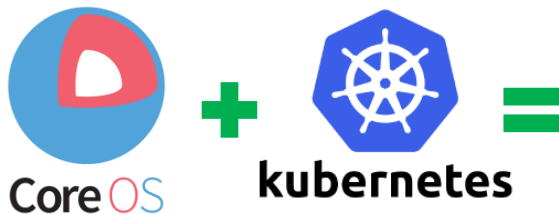
To use AWS Cloud Formation, you need:

- An AWS Account. [Signup](#) if you need an account.

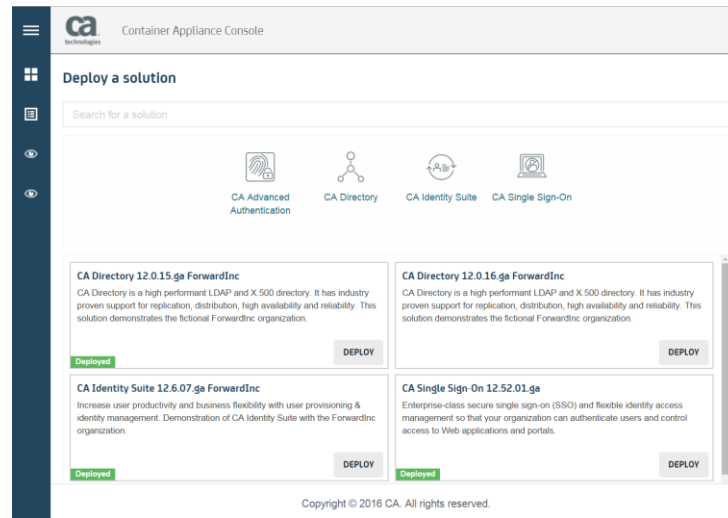
### Setup Steps:

Follow these steps to create a cluster and deploy CA components:

1. **Launch Stack**



\* We're working on this right now



# Infrastructure

## When you prefer the Google cloud...

### Create your Appliance on Google Container Engine (GKE)

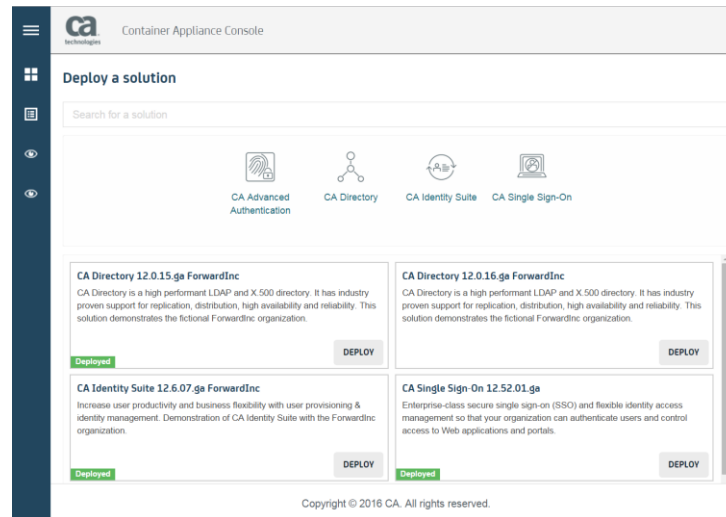
#### Pre-requisites:

To access Google Container Engine, you need:

- A Google Account. [Signup](#) if you need an account.
- Billing enabled for your account with Google Compute. [Enable billing](#) in case you use all of your free trial period.

#### Setup Steps:

Follow these steps to create a cluster and deploy CA components:



\* We're working on this right now

# Infrastructure

When you prefer OpenShift...

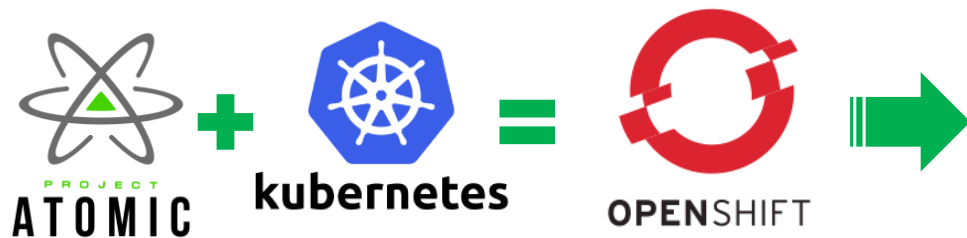
## Add CA Solutions to OpenShift

### Pre-requisites:

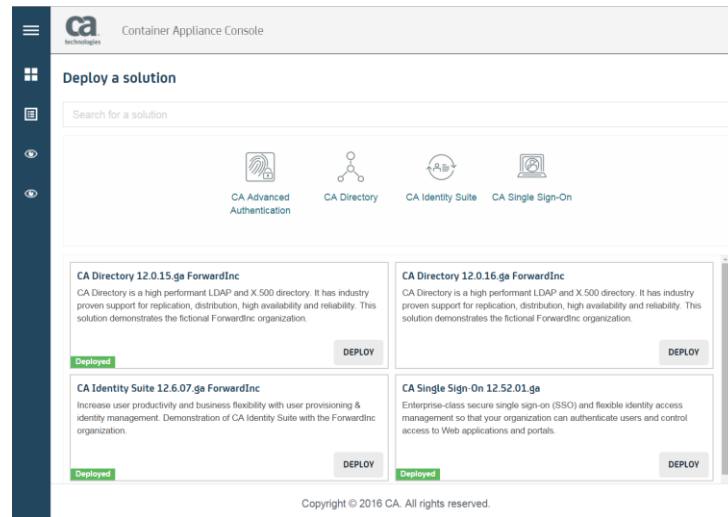
- A working OpenShift installation.

### Setup Steps:

Follow these steps to access the Container Console:



\* We're working on this right now



# Configuration

Get started with minimal configuration



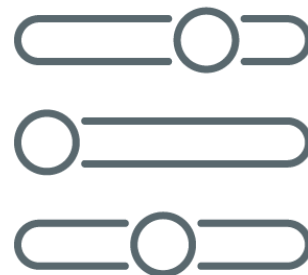
Most settings  
are already  
configured



Add your custom  
values



Include any  
policies, roles, or  
data to initialize  
the system

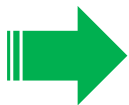
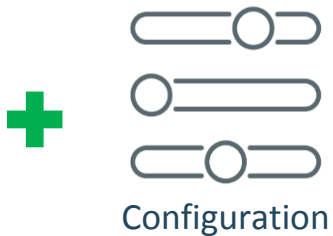
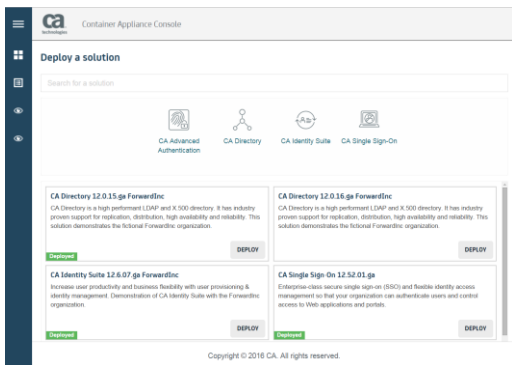


Choose URL  
during  
deployment, or  
upload\* a zip file

\* We're working on this right now

# Runtime

Click, choose, and use



**Modify Solution Template Parameters**

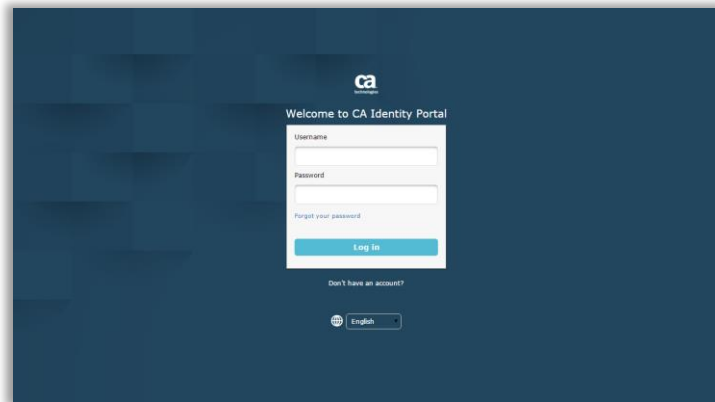
Modify parameters for CA Directory 12.0.16.ga ForwardInc

OAUTH\_TOKEN

SOLUTION\_CONFIGURATION

<https://github.com/ca-directory/vapp-config-forwardinc/archive/12.0.16.zip>

Cancel Next



# Use Cases

Common challenges across all products

- Simplify Installation – scalable infrastructure delivered as a Virtual Machine
  - Pre-installed containers with pre-connected components provides **known environment** using **best-practice architecture**
- Simplify Configuration
  - Iteration 1: Apply configuration properties and data with flexible scripting
  - Iteration 2: Apply structured configuration and data with opinionated scripting
- Simplify Upgrade – Upgrade configuration and product with minimal interaction
- High Availability – Pre-configured for an “HA first” mentality
- Elastic Scaling – Unexpected benefit of containerization with orchestration

# Metrics

Evaluate success with measurement

- Performance
  - Bare-metal, virtual machines, containers
- Installation and Configuration time
  - Demo, Proof of Concept, Customer
- Upgrade time
  - Minor release, Major release, hotfix
- Operating cost
  - Bare-metal, virtual machines, containers

# Product Readiness Plan

Under  
Consideration

Tech  
Preview

GA

Components running within containers

	APR-JUN FY17 Q1	JUL-SEP FY17 Q2	OCT-DEC FY17 Q3	JAN-MAR FY17 Q4	APR-JUN FY18 Q1
Directory					
Single Sign-On					
Identity Suite					
Advanced Authentication					
PAM					



# Product Readiness

## CA Directory Highlights

- Automatic failure recovery
  - If any DSA fails, a new DSA starts and data is **automatically replicated**
- Directory (LDAP) requests are **automatically load balanced** to all DSAs
- DSAs can be **manually scaled** using the command line (limit of 200)
  - To turn up 6 dsas: `kubect1 scale rc dxgrid-data-rc --replicas=6`
- Centralized logging across all DSAs using ELK stack
- Next steps:
  - Automatic scaling based on workload
  - Performance testing with high performance docker networking

# Product Readiness

## SSO Highlights

- Master and Worker policy servers
- Agent requests are **automatically load balanced** to all worker policy servers
  - External agents use pre-configured Host Configuration Object (HCO) to access scalable policy server on known ports (4444x)
- Worker policy servers can be **manually scaled** using the command line
  - To turn up 6 workers: `kubect1 scale rc policy-server --replicas=6`
- Next steps:
  - Scalable access gateway
  - Reuse highly available CA Directory solution as session store, policy store

# Summary

## A Few Words to Review

### Key topics

Cloud-native infrastructure is a new paradigm.

Starter configurations shorten time-to-value.

### Findings

An efficient decision for the entire DevOps lifecycle.

Encourages iterative improvement.

### Experiences

Many customers and partners are interested in reducing cost of ownership.

Many customers and partners are interested in using containers.



## **Tim Hobbs**

Advisor, Product Management

Timothy.Hobbs@ca.com

