What's New in CA API Gateway 9.1?

CA Communities Webcast
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Agenda

1. Overview
2. Docker Gateway
3. Silent Gateway Install and Configuration
4. Developer License
5. Developer UX enhancements
6. Gateway Performance enhancements
7. Other new features
8. Q&A

Overview – CA API Gateway 9.1

Available now (GA release April 22, 2016)

- **New Docker-based Gateway**
  - Docker form factor for Gateway, Silent install and configuration enhancements
- **Developer Workstation**
  - Developer workstation form factor, CentOS based virtual appliance
- **Developer UX enhancements**
  - Publish Swagger services in Policy Manager, Policy Manager task menu re-organization, improved audit functionality
- **Gateway performance improvements**
  - Policy Manager login speed improvements, CA Siteminder auth cache, replay protection functionality enhancements
- **Other enhancements**
  - Support for cloud-init, re-introduction of Thales HSM support

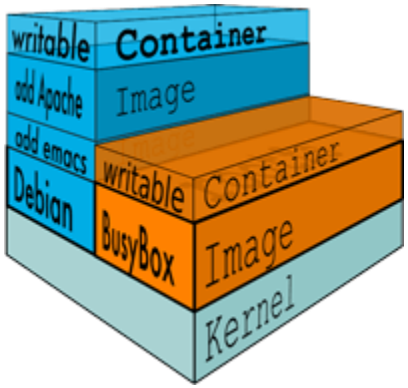
CA API Gateway - Docker Container

Overview of Docker

What is Docker?

"Docker containers wrap up a piece of software in a complete filesystem that contains everything it needs to run: code, runtime, system tools, system libraries – anything you can install on a server"

-https://www.docker.com/what-docker



Why use Docker?

- Lightweight
- Portable: build once, run anywhere
- Improve Development Velocity
- Burgeoning Eco system

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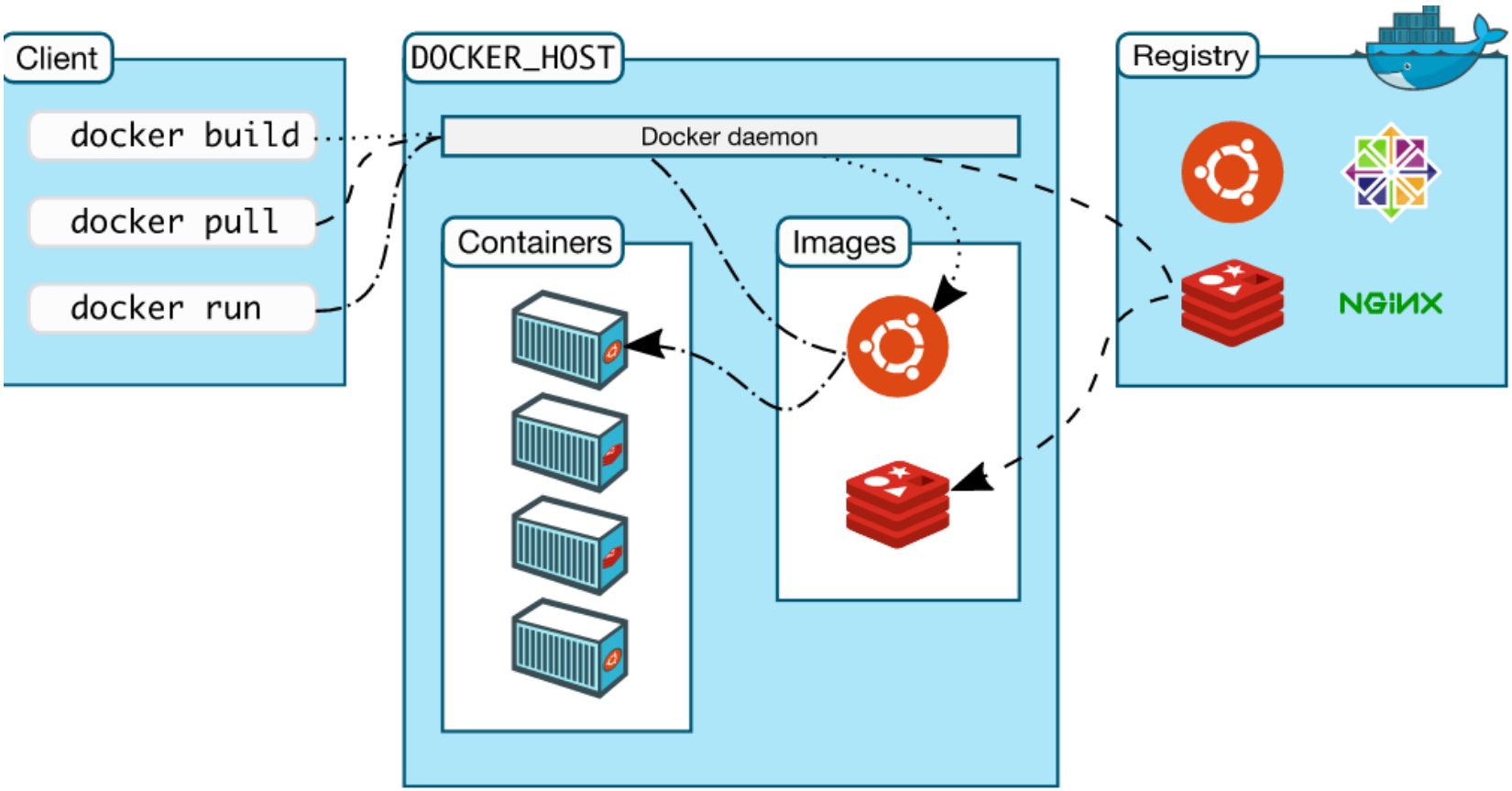
Docker Deployment Model



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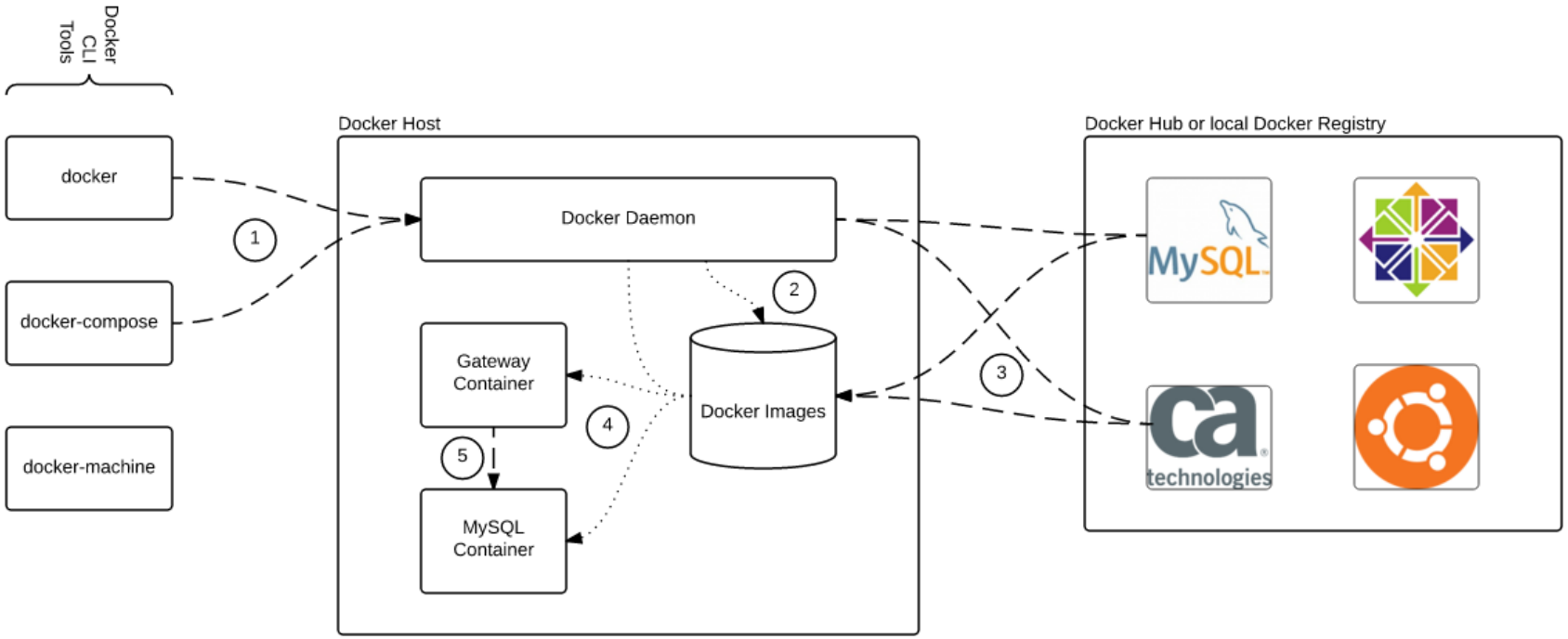
Gateway Docker Deployment Model



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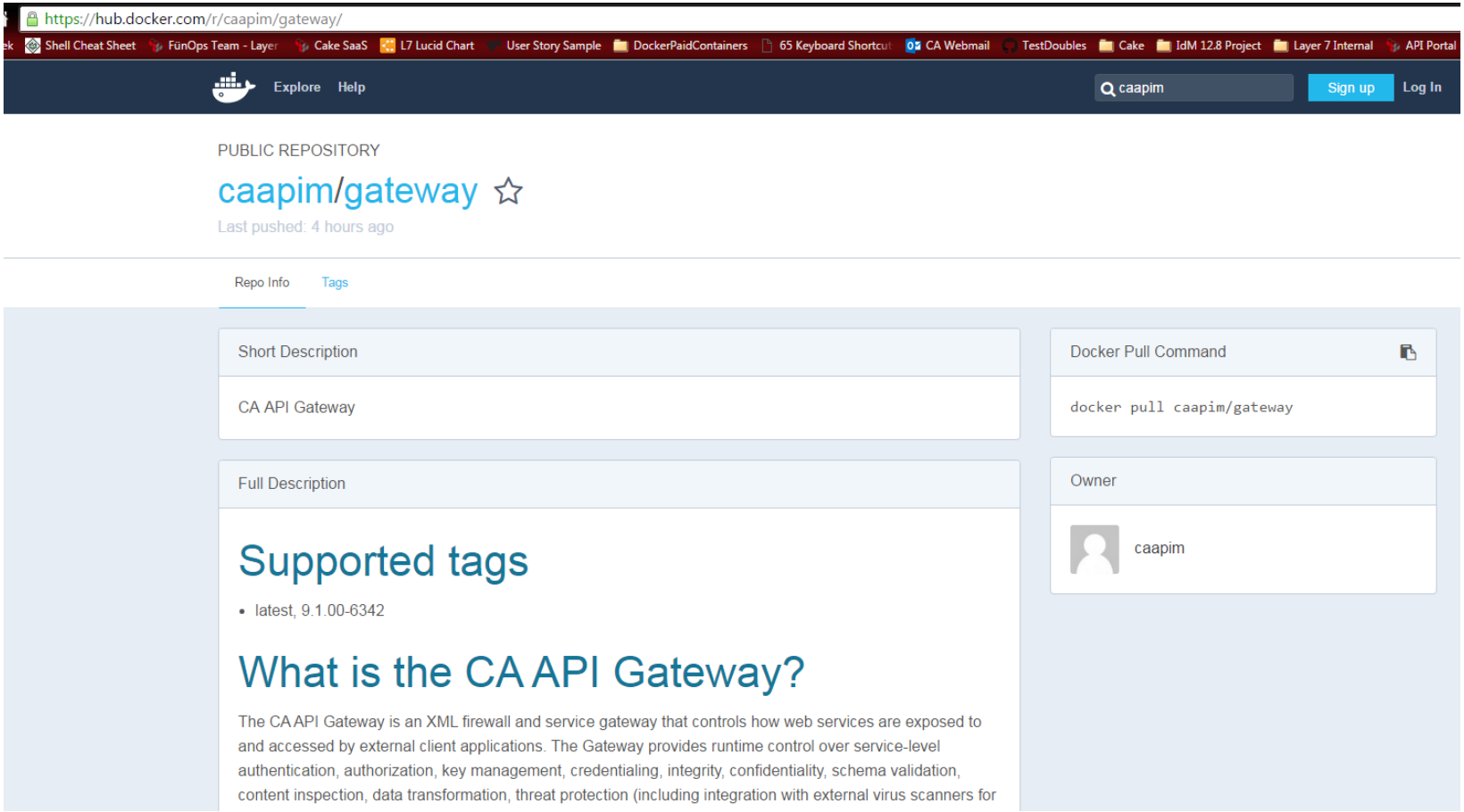
What does CA provide?

Docker Container, via DockerHub

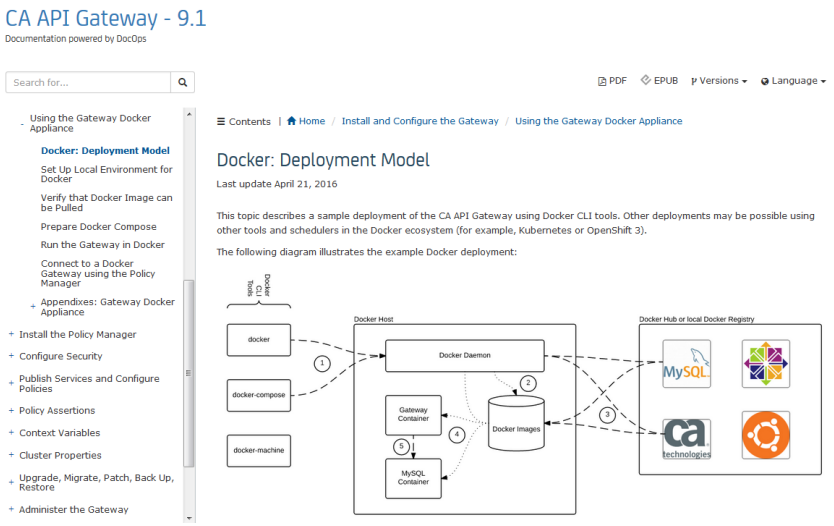


CA API Gateway - Docker Container

What does CA provide?

Getting Started Guide

Sample docker-compose.yml files, for easy deployment



docker-compose.yml

```
ssg:
  image: caapim/gateway:9.1.00-6342
  mem_limit: 2048m
  expose:
    - "8777"
  ports:
    - "8080:8080"
    - "8443:8443"
    - "9443:9443"
  environment:
    SSG_CLUSTER_COMMAND: "create"
    SSG_CLUSTER_HOST: "localhost"
    SSG_CLUSTER_PASSWORD: "7layer"
    SSG_DATABASE_TYPE: "mysql"
    SSG_DATABASE_HOST: "mysql"
    SSG_DATABASE_PORT: "3306"
    SSG_DATABASE_NAME: "ssg"
    SSG_DATABASE_USER: "gateway"
    SSG_DATABASE_PASSWORD: "7layer"
    SSG_DATABASE_ADMIN_USER: "root"
    SSG_DATABASE_ADMIN_PASS: "7layer"
    SSG_ADMIN_USER: "pmadmin"
    SSG_ADMIN_PASS: "7layer"
    SSG_LICENSE:
    SSG_INTERNAL_SERVICES: "restman wsman"
  links:
    - mysql
mysql:
  image: mysql:5.5
  mem_limit: 512m
#  volumes:
#    - ./mysqlconf:/etc/mysql/conf.d
#    - /root/mysqldatadir:/var/lib/mysql
  environment:
    - MYSQL_ROOT_PASSWORD=7layer
```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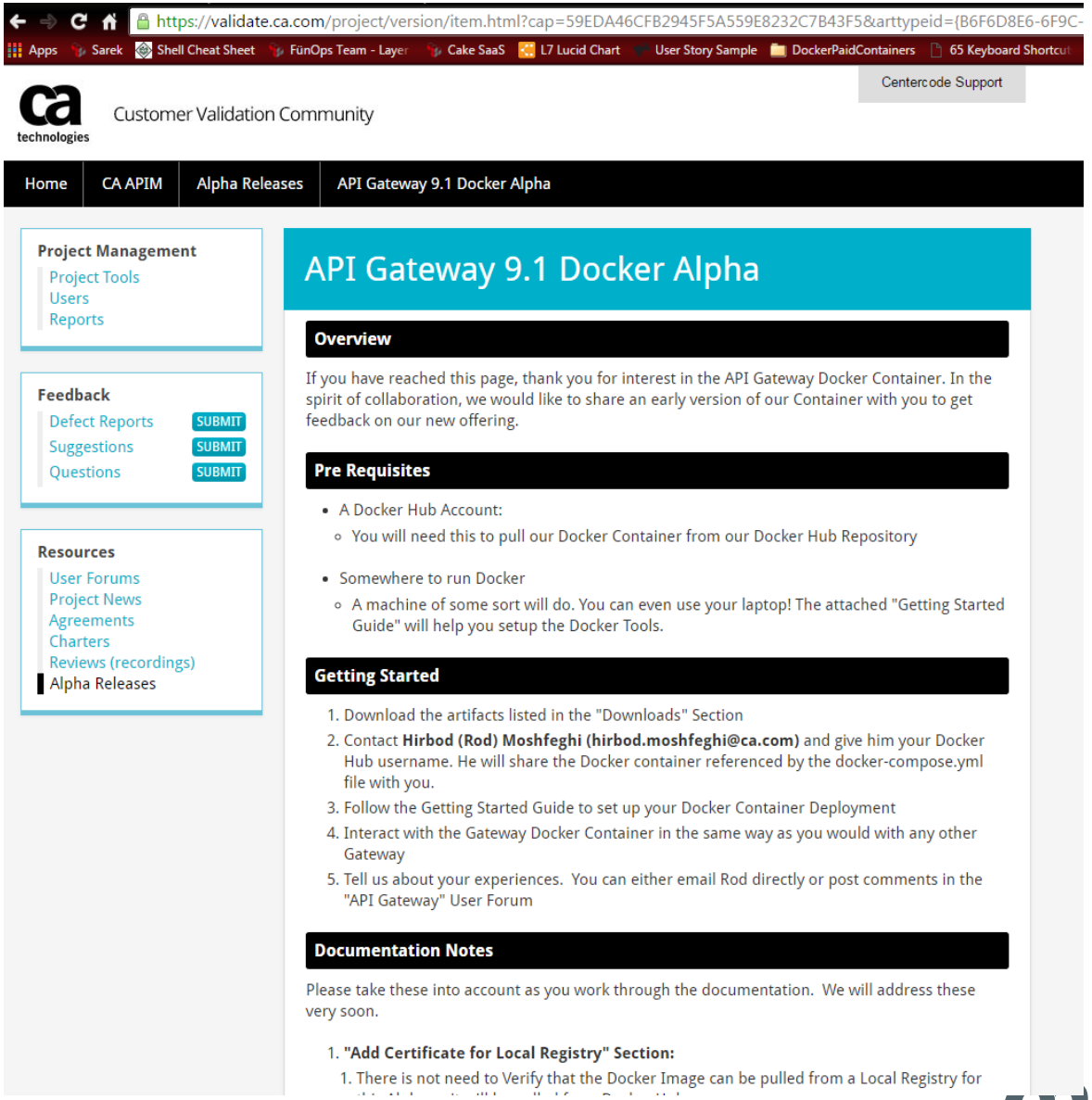
CA API Gateway - Docker Container

Customer Collaboration

Alpha Release on validate.ca.com



Silent Install and configuration

- **The Problem:**

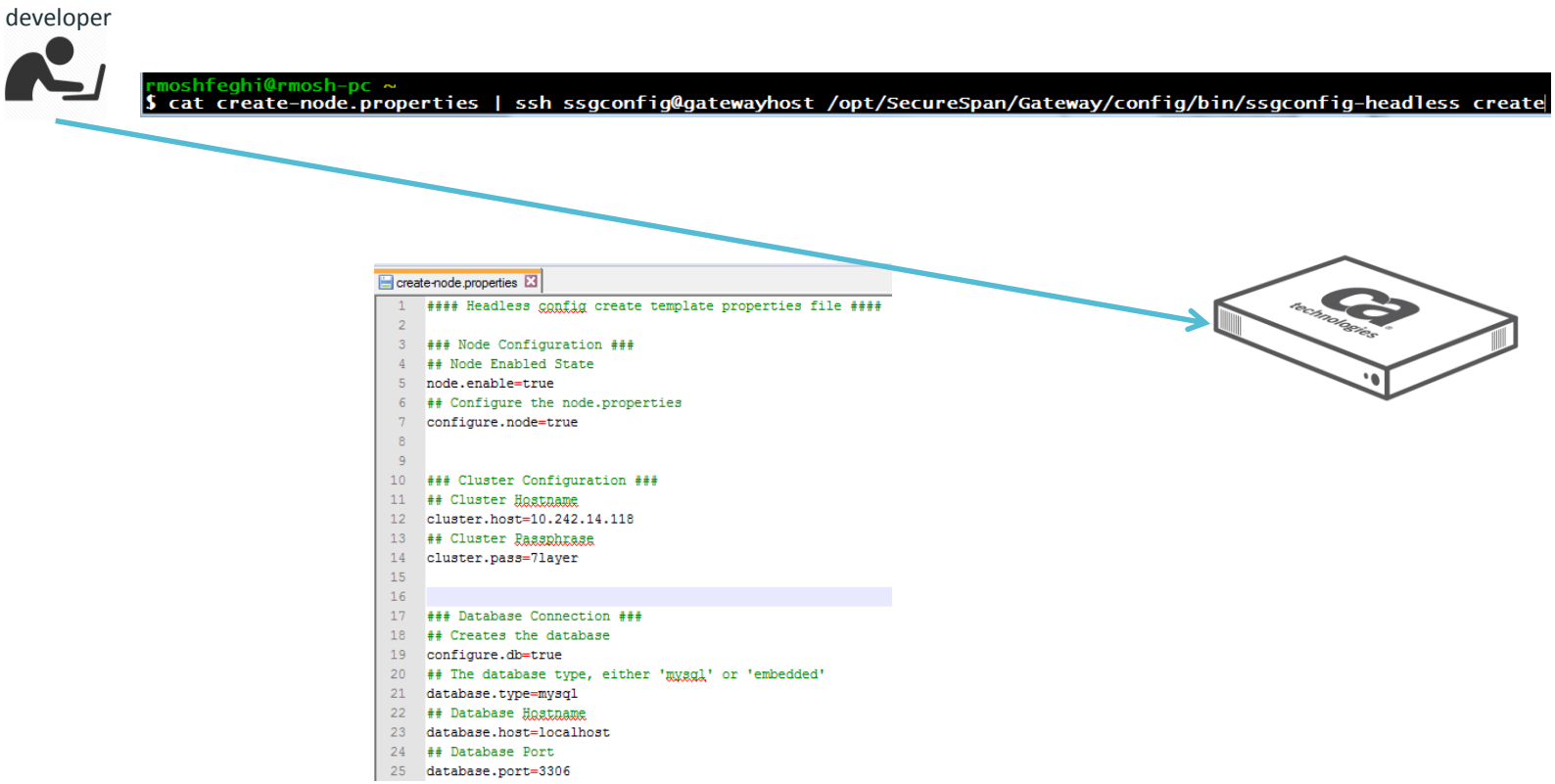
The Gateway can only be configured using an interactive text based menu. This makes it difficult to integrate the Gateway with configuration management and DevOps tools such as Chef, Puppet, and Ansible

- **Solution:**

Create a means to silently configure the Gateway which allows it to be configured over SSH.

Silent Install and configuration
Functionality

- Create Gateway Container Cluster
- Join Existing Gateway Docker Cluster



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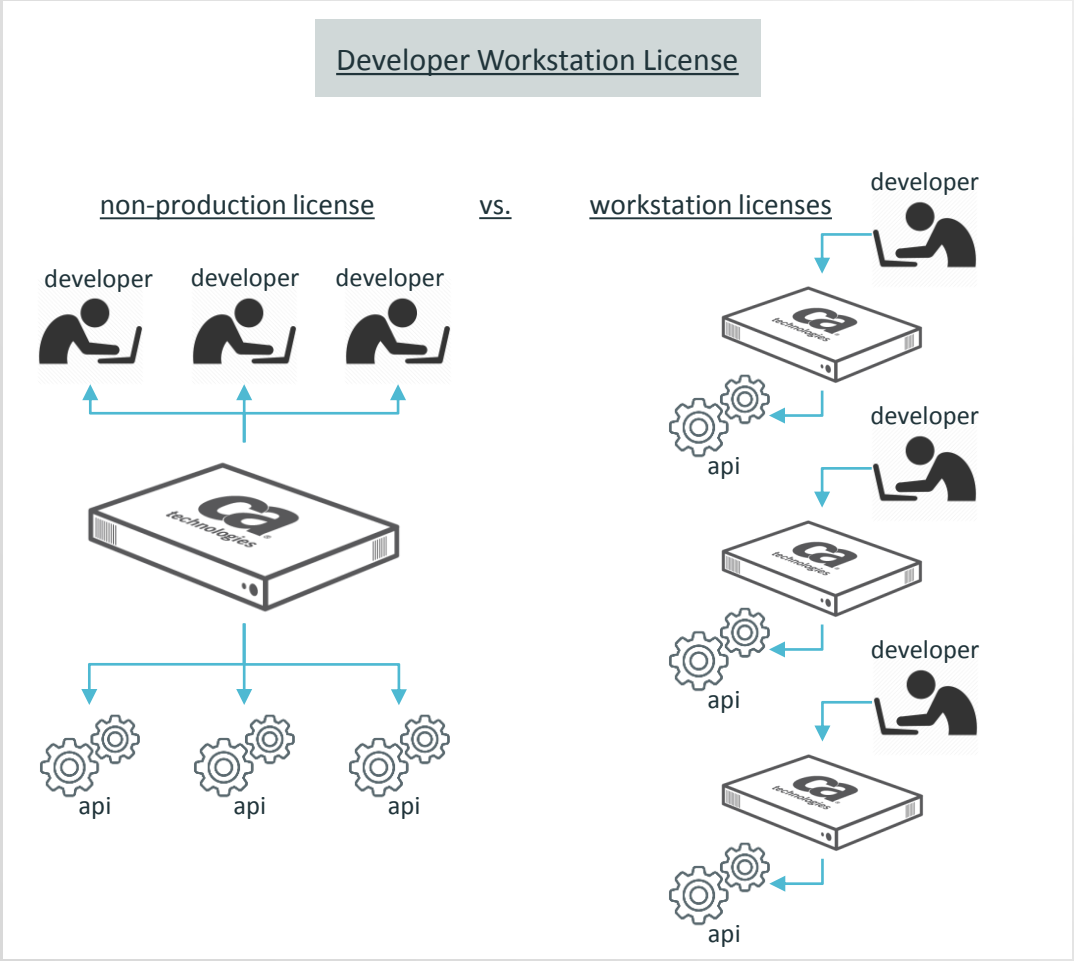
Developer License for Gateway



Able to provide individual use Gateways for development purposes

- Low cost for individual licenses, takes advantage of new deployment model.
- Easy to setup, deploy, manage. Allows individual developers to have individual development environments for Policy and API's

Running on new CentOS based virtual appliance

Publish Swagger based API's

Allow Gateway administrators, developers, and policy authors to publish API endpoints using Swagger documents.

What is Swagger?

Popular representation syntax for RESTful API's and services

- Can be represented both in JSON or XML
- Declarative resource specification, no need for knowledge of server implementation or access to server code
- Allows developers to quickly interact with a remote service, within minimal implementation logic

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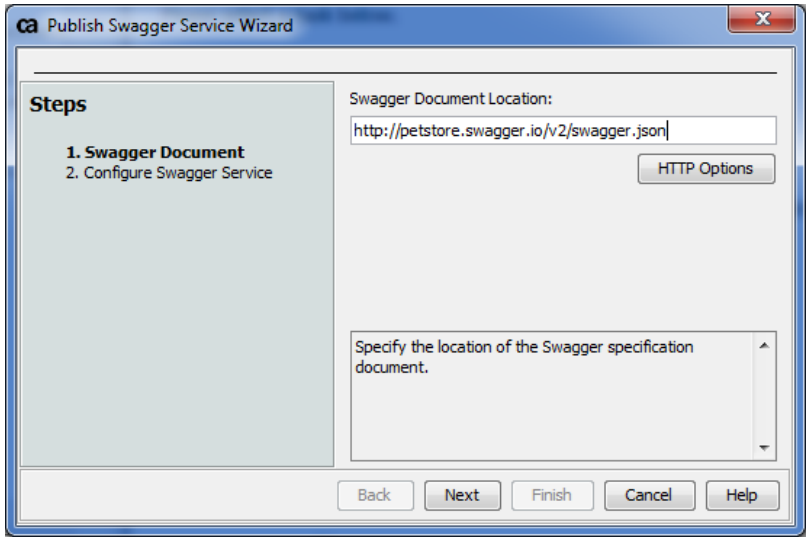
Publish Swagger based API's



Invoke publishing wizard via tasks menu

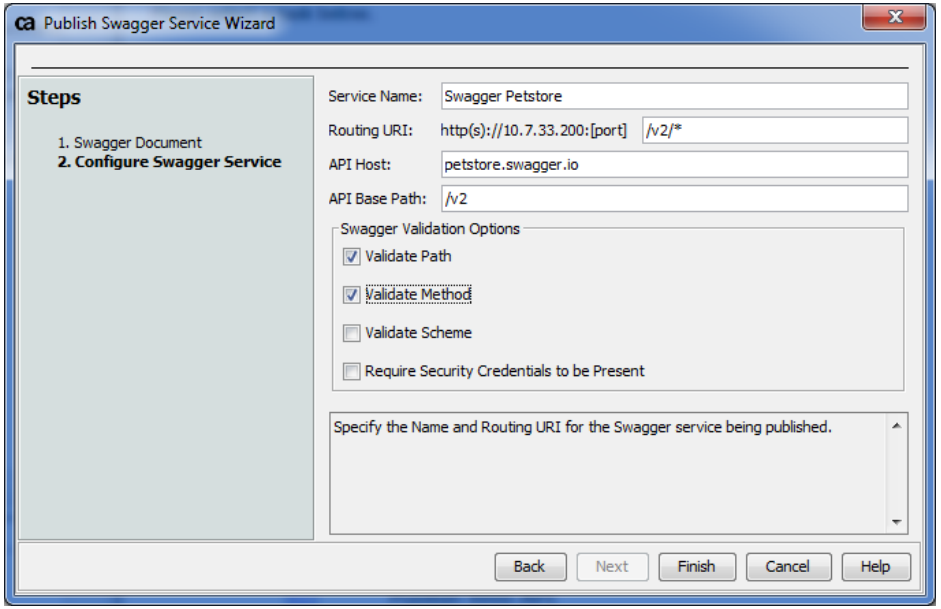
Enter location of Swagger document

- Used to define validation parameters in published service
- Used for routing
- Not permanently stored on Gateway with service

Enter information about the API for the Gateway to use

Optional validation options:

- Gateway can use information from the swagger document to validate/filter requests and responses, before they go to the backend service



Publish Swagger based API's

- Set Context Variable swagger.host as String to: petstore.swagger.io
- Set Context Variable swagger.baseUri as String to: /v2
- Set Context Variable swagger.docUrl as String to: http://petstore.swagger.io/v2/swagger.json
- At least one assertion must evaluate to true
  - ${swaggerDoc}: Look Up in Cache [swaggerCache]
  - All assertions must evaluate to true
    - Add Audit Details: "Obtaining Swagger document from: ${swagger.docUrl}"
    - **Route via HTTP to ${swagger.docUrl}**
    - ${swaggerDoc}: Store to Cache [swaggerCache]
- At least one assertion must evaluate to true
  - All assertions must evaluate to true
    - ${request.http.uri}: Evaluate Regular Expression - Swagger Document Request
    - Compare Variable: ${request.http.method} is equal to GET; If Multivalued all values must pass
    - **Return Template Response to Requestor**
  - All assertions must evaluate to true
    - Validate Against Swagger Document
    - **Route via HTTP to ${request.url.protocol}://${swagger.host}${swagger.baseUri}${sw.apiUri}${request.url.query}**

Invoke publishing wizard via tasks menu

Enter location of Swagger document

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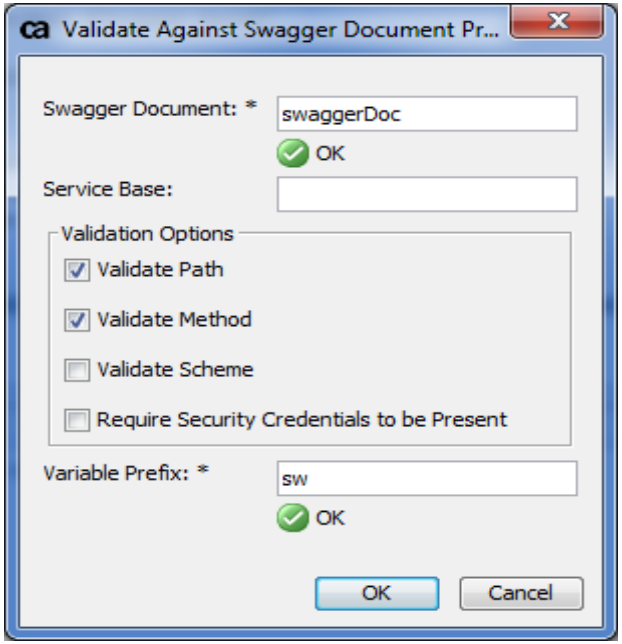

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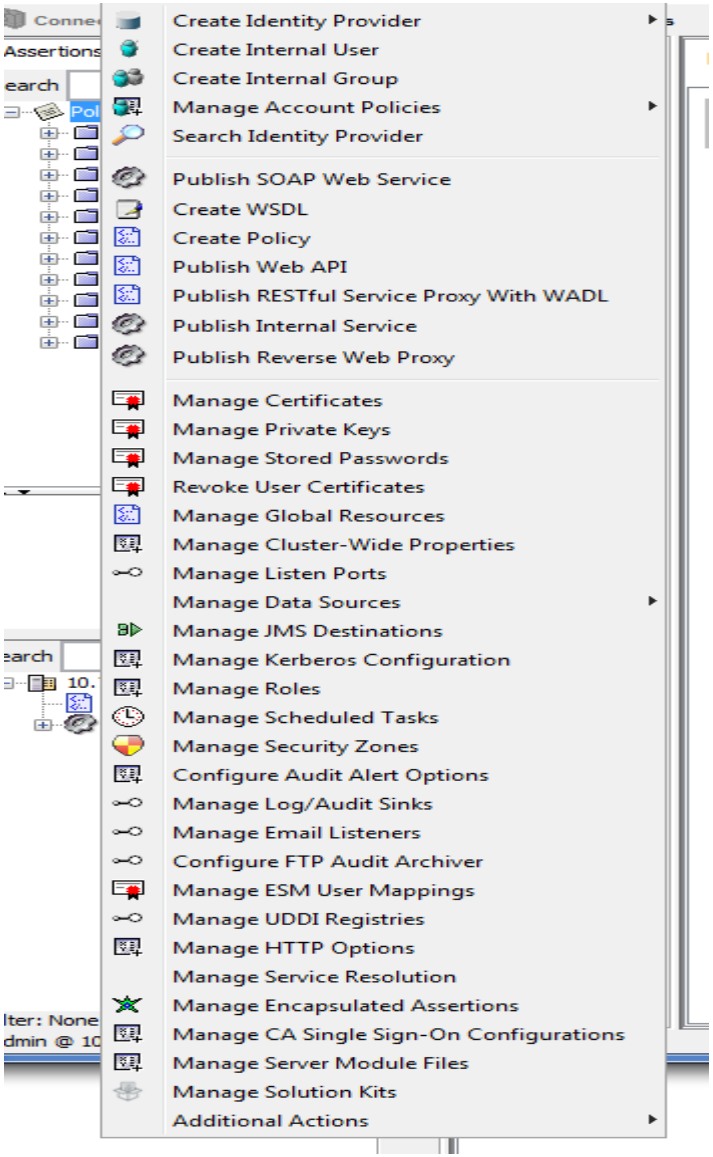
Policy Manager Task menu

9.0



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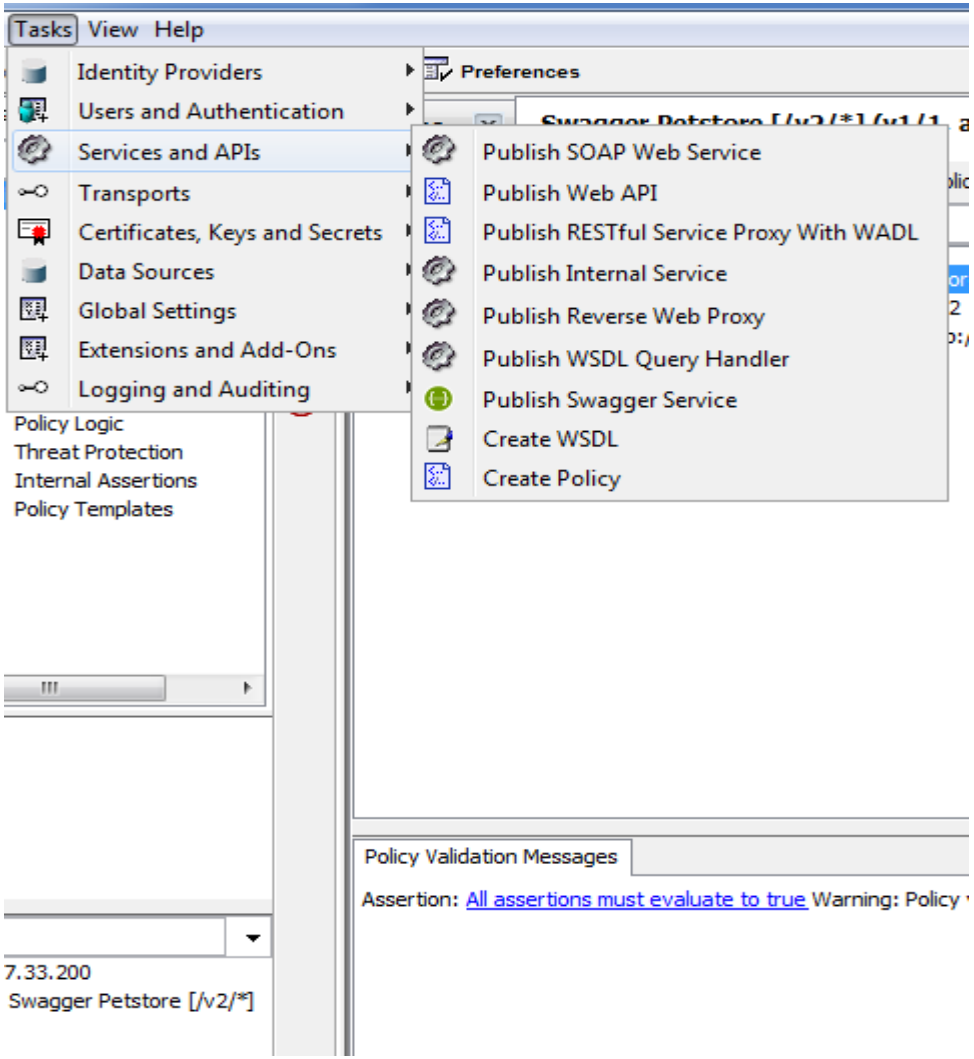

Policy Manager speed improvements

The Problem:

Connecting the Policy Manager to geographically distant Gateways resulted in very slow login times, and slow refresh times when connected

Solution:

Changes to the way the Policy Manager loads information from the Gateway, and refreshes that information while a session is active.

Resulted in anywhere from 33% to 75% faster login times.

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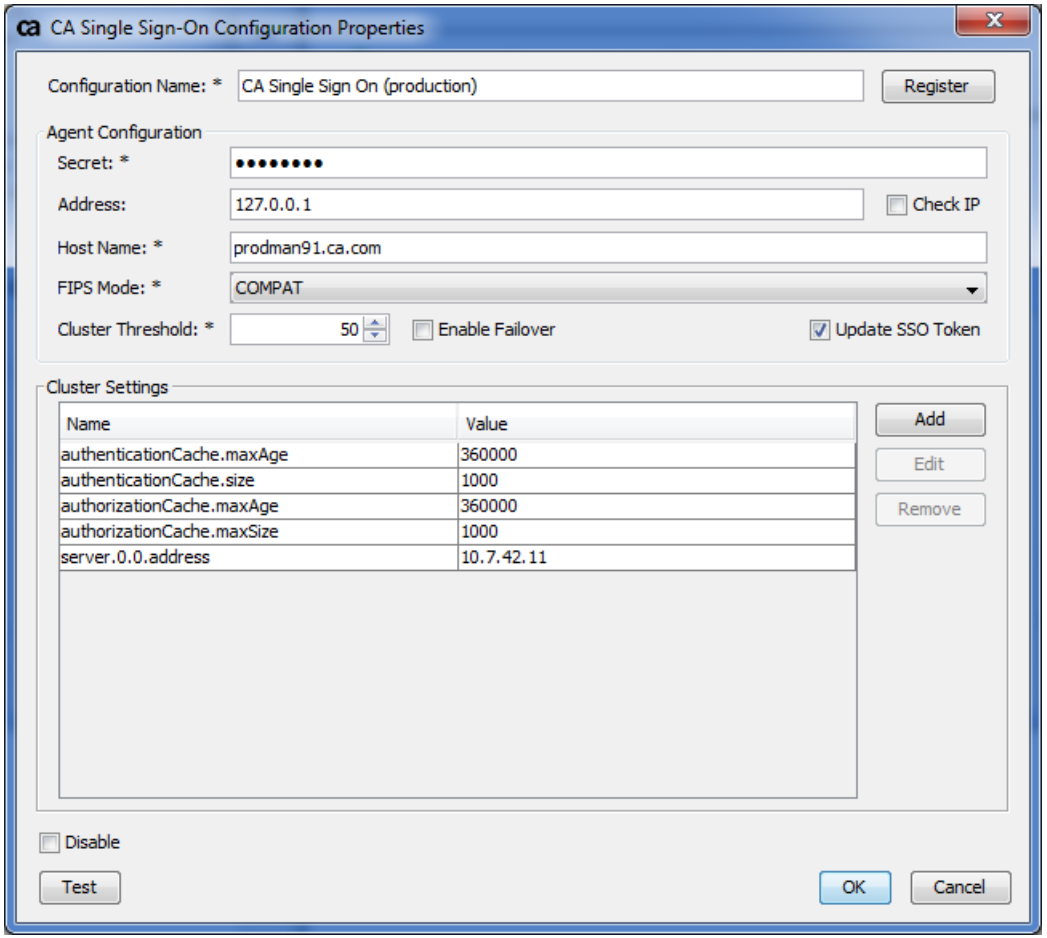
CA Single Sign On (Siteminder) request/response cache



Added per-agent request and response caching functionality to the Gateway

- Allows users to configure caches for authentication/authorization requests and responses
- Sizes and lifespans of cache values are entirely user configurable, and can be optionally disabled
- When enabled, significant performance improvements for CA SSO authN/authZ via the Gateway
- Supports multiple agents, can configure cache properties for each agent separately.

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Audit Subsystem Improvements

Configure the Gateway to bypass auditing subsystem when database is full

In previous versions, Gateway would stop processing traffic when the database filled up with audits

Introduce a new cluster property in Musket:

audit.managementStrategy	**STOP/BYPASS**

STOP: default behaviour, Gateway will stop processing traffic until space is made available in database
BYPASS: Gateway will continue processing traffic, and will bypass the audit subsystem

Functionality gives users options on how to configure their Gateway to behave when the database is full, allows them to avoid unexpected data processing suspensions.

Other Improvements

- Replay protection in clustered environments
- Thales HSM – compatibility with JDK8
- Support for RHEL 7 in software form factor
- Increased support for cloud-init in Gateway AMI form factor

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