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# PaaS is the Remedy for VM Hangover

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# Various Types of Cloud Solutions

| | | |
|---|---|---|
| **SaaS** | Applications | • **Ready to use applications**<br>• **Locked into using available features** |
| **PaaS** | Platform | • **Application development & runtime environment**<br>• **Standardized services and components** |
| **IaaS** | Infrastructure | • **Raw infrastructure resources**<br>• **Flexibility to install any software** |

# The VM

**BEFORE** Virtualization

- Hardware utilization low
- Running out of Space
- Running out of Power

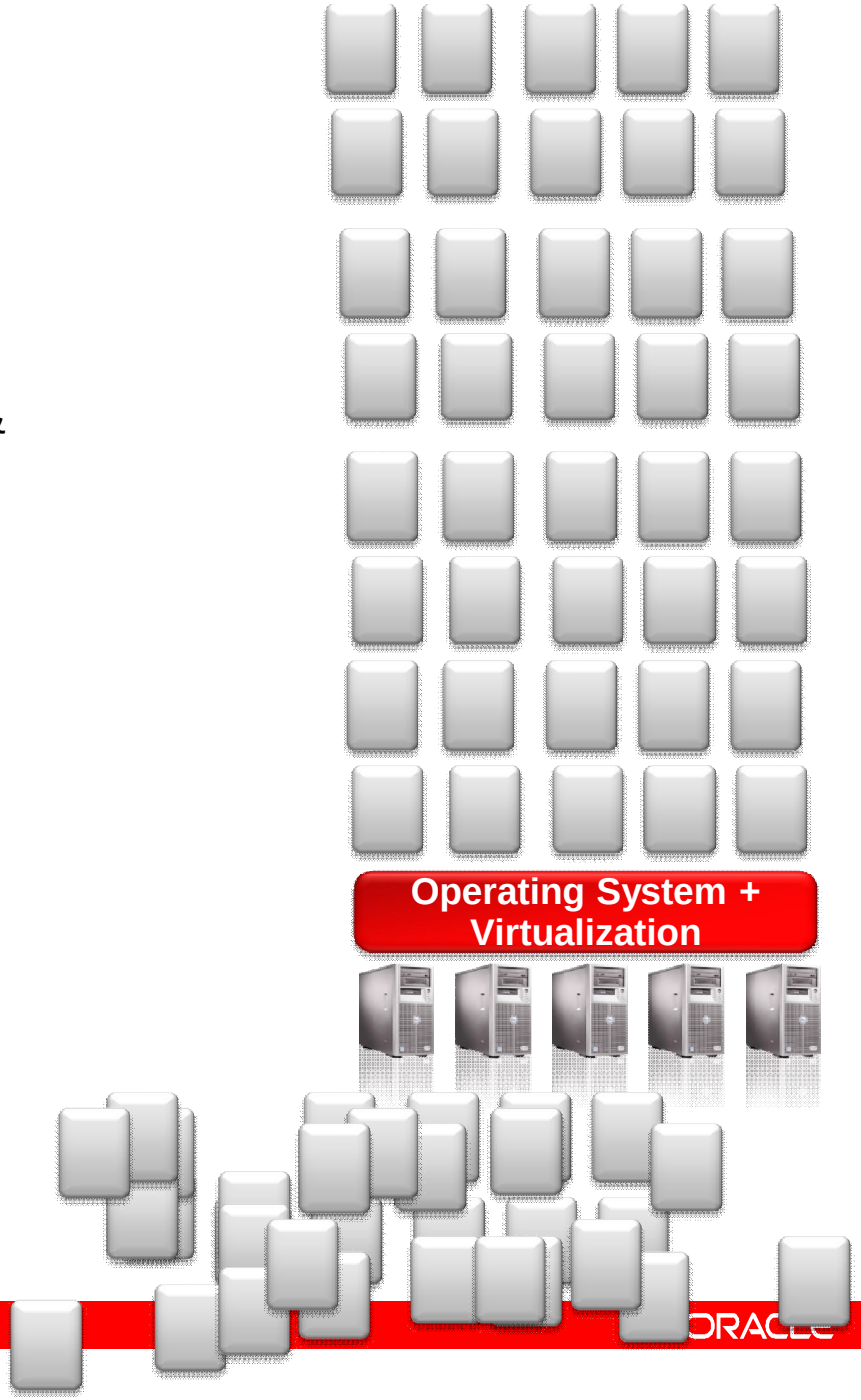
**AFTER** Virtualization

- Improved Hardware utilization
- Less power use
- Less Space

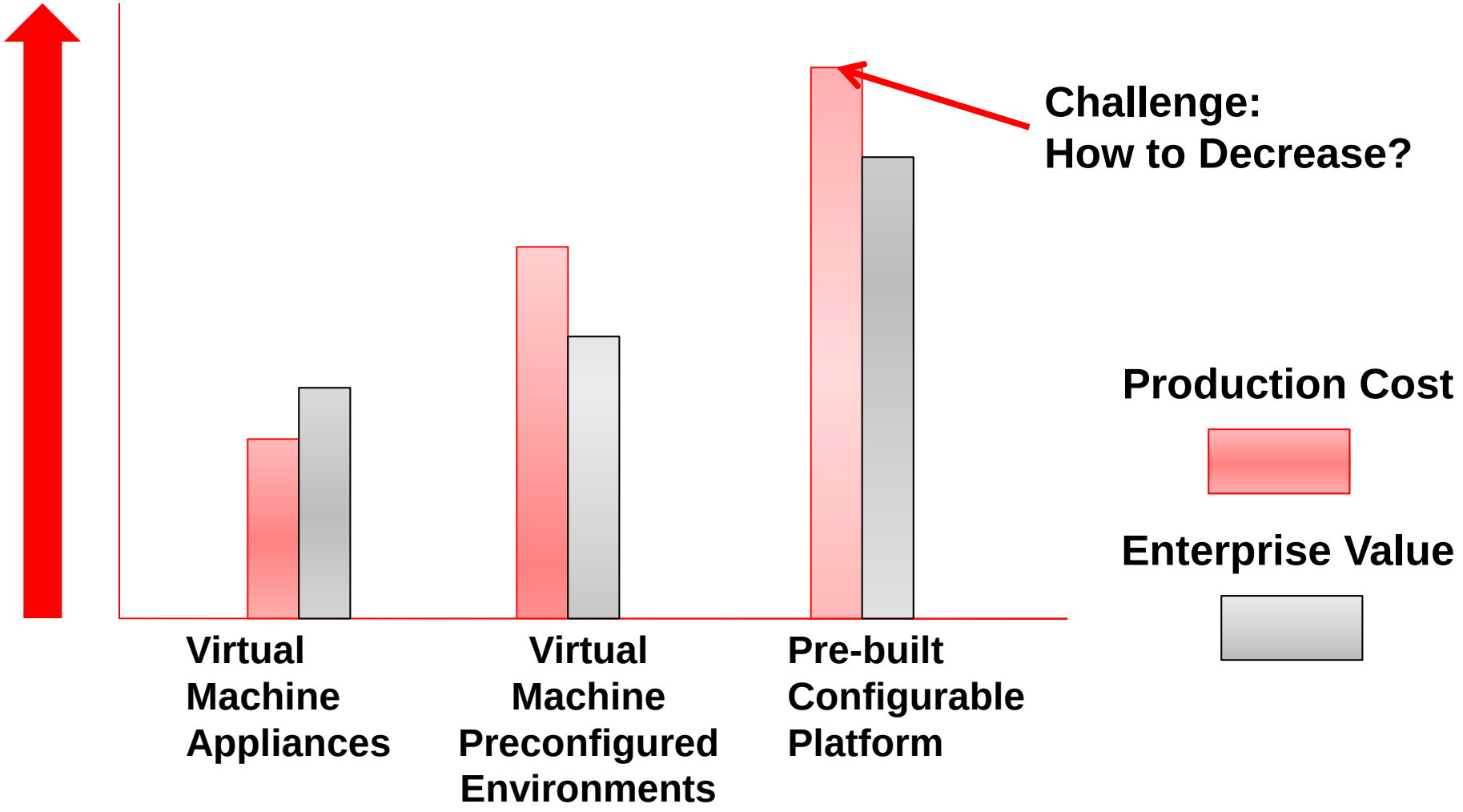
# The VM Hangover?

**AFTER a lot of Virtualization:**

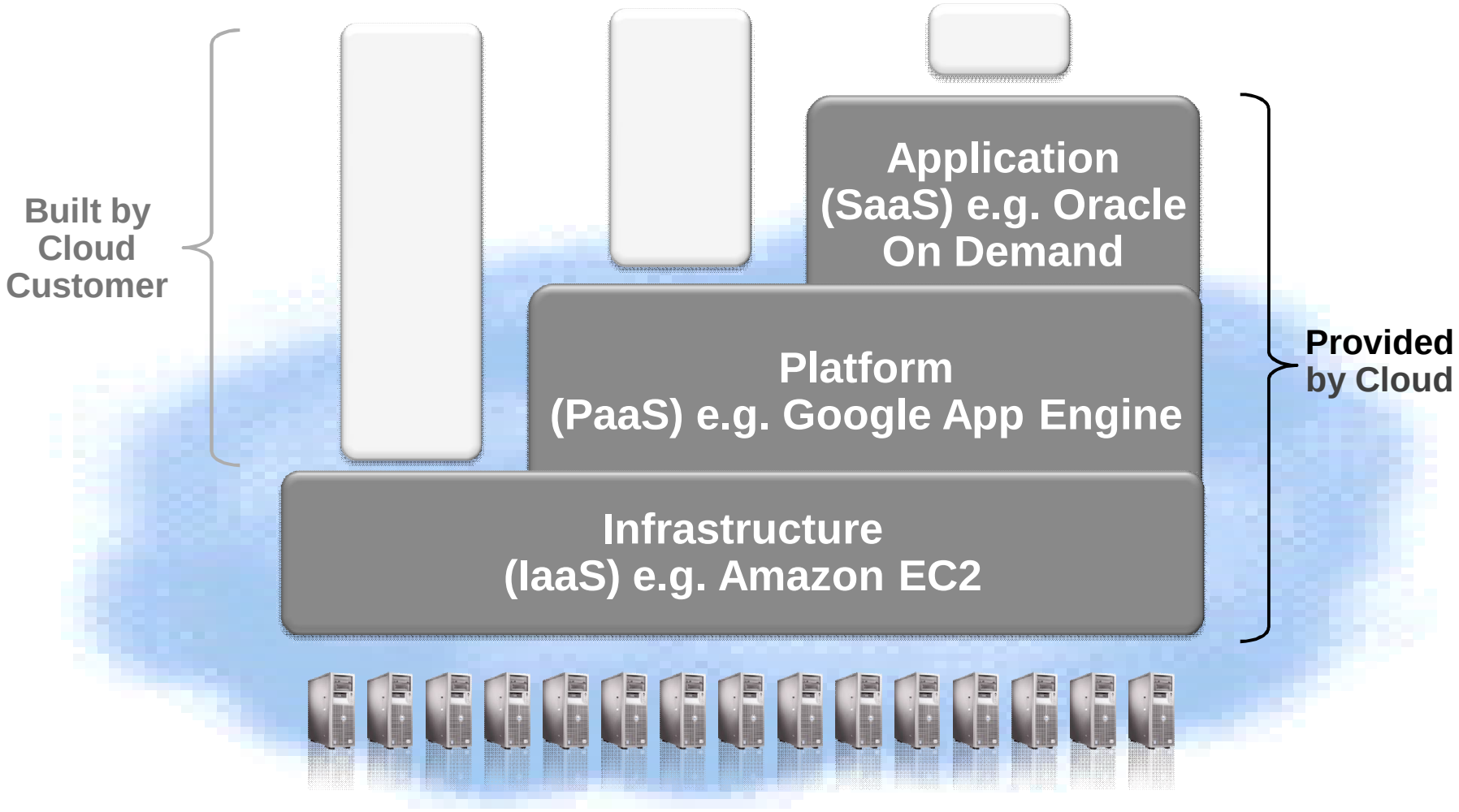
- Increased Operations, Administration & Management Burden
- Difficulties managing Licenses
- Sprawl
- Increased operational costs



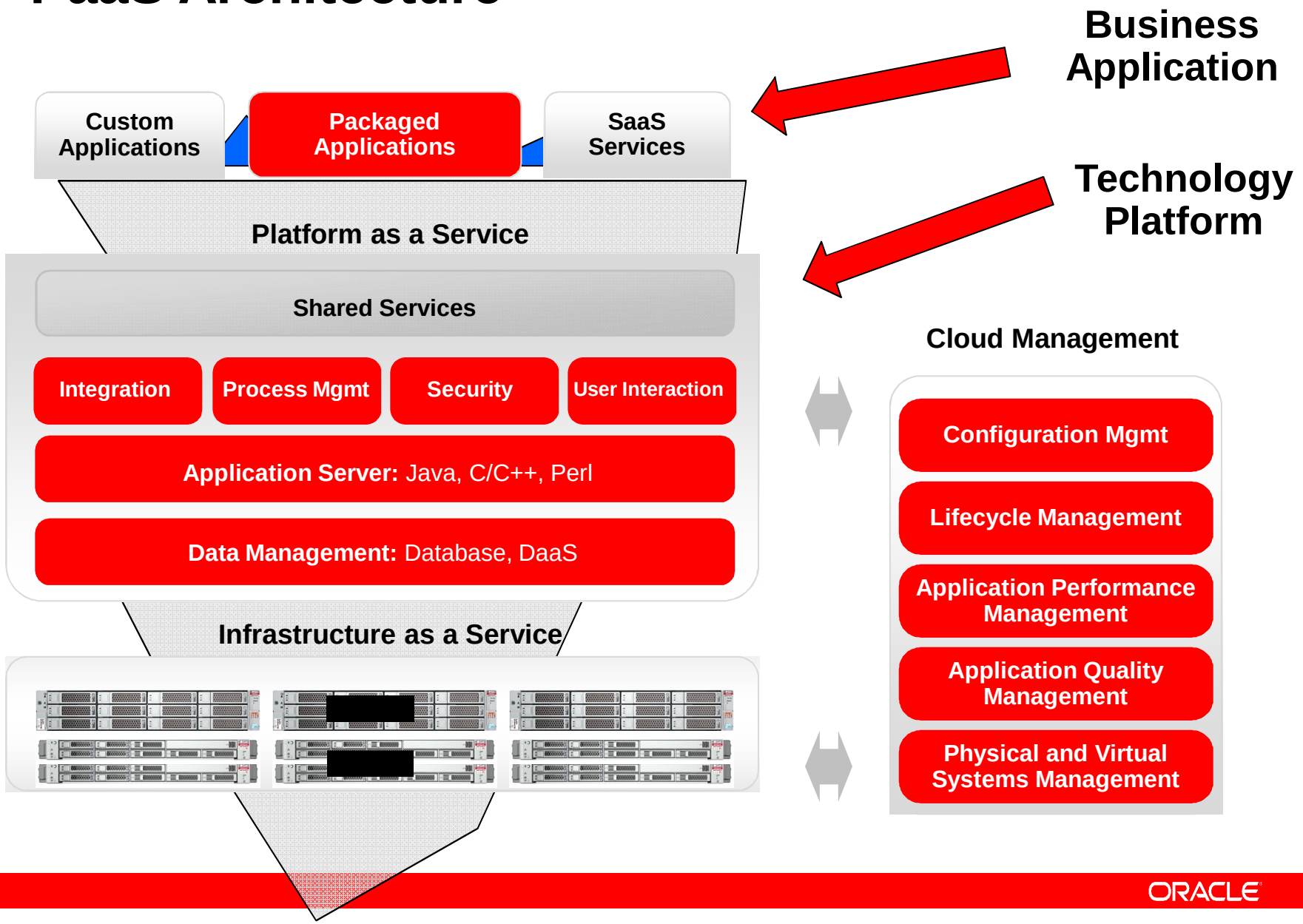
# Cloud Implementation



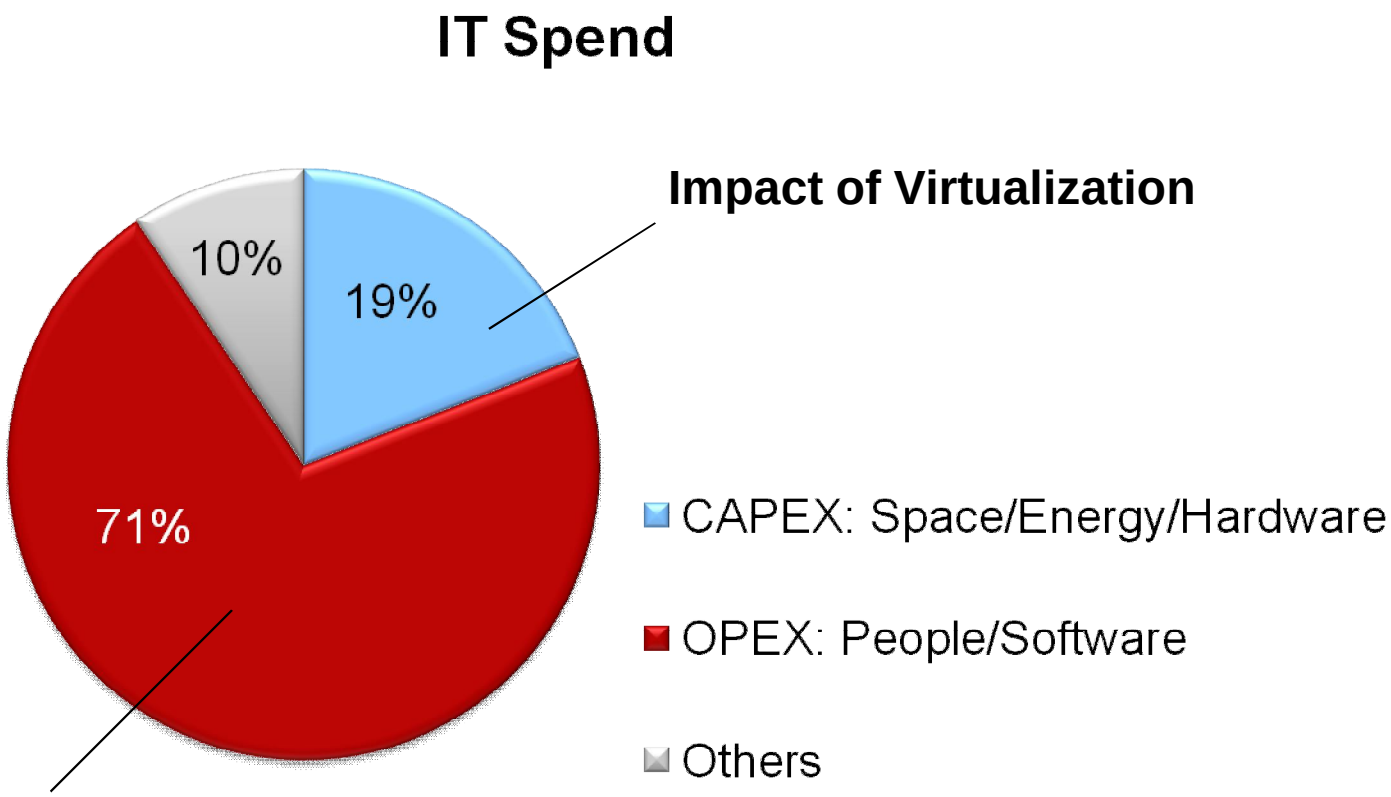
# Prebuilt Configurable Platform
## Platform as a Service



# PaaS Architecture



# Consolidation Delivers Bigger Impact on IT Budget (OPEX)




**Impact of PaaS: Standardization and Consolidation**

**Source: Credit Suisse, OracleWorld 2009**

# Challenges in Creating Custom Platform Environment Within Enterprises Today

**1 to 3 weeks**

- Provision virtualized resources — 1-5 days
- Install & configure OS and all platform software — 1-2 days
- Create / customize scripts to "automate" process — 1-5 days
- Use scripts or manually configure all software components to create platform environment — .5 day
- Integrate and test complete end-to-end platform environment — 1-2 days
- Deploy application — .5 day

# Desired Characteristics In Simplifying Setup of Customized PaaS

## Deployment Efficiency

- Template-based configuration
- Automated provisioning

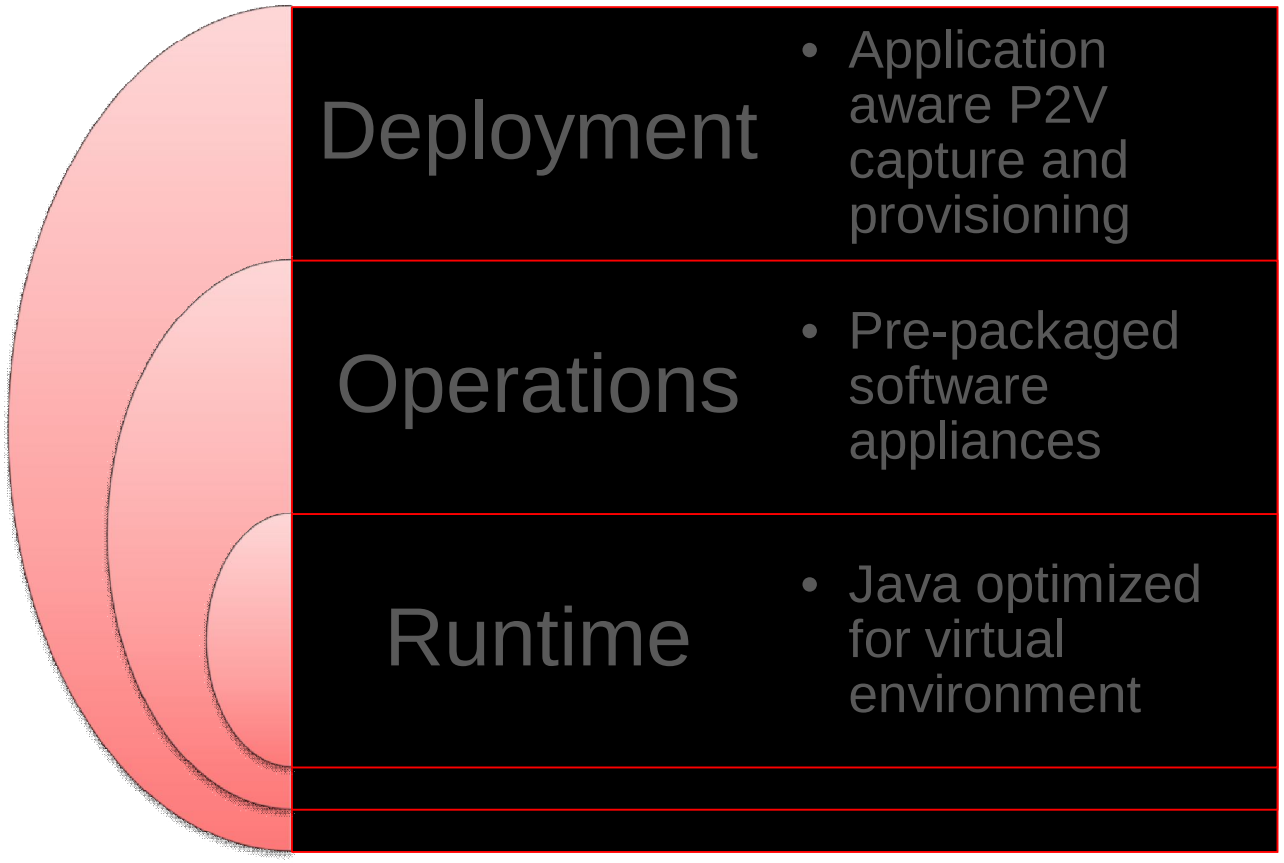
## Operational Efficiency

- Standardized, configurable building blocks
- Repeatable error-free processes

## Runtime Efficiency

- Virtualization without performance penalty
- High density on shared resources

# Oracle's Solution to Enable Efficient Setup of Customized Private PaaS

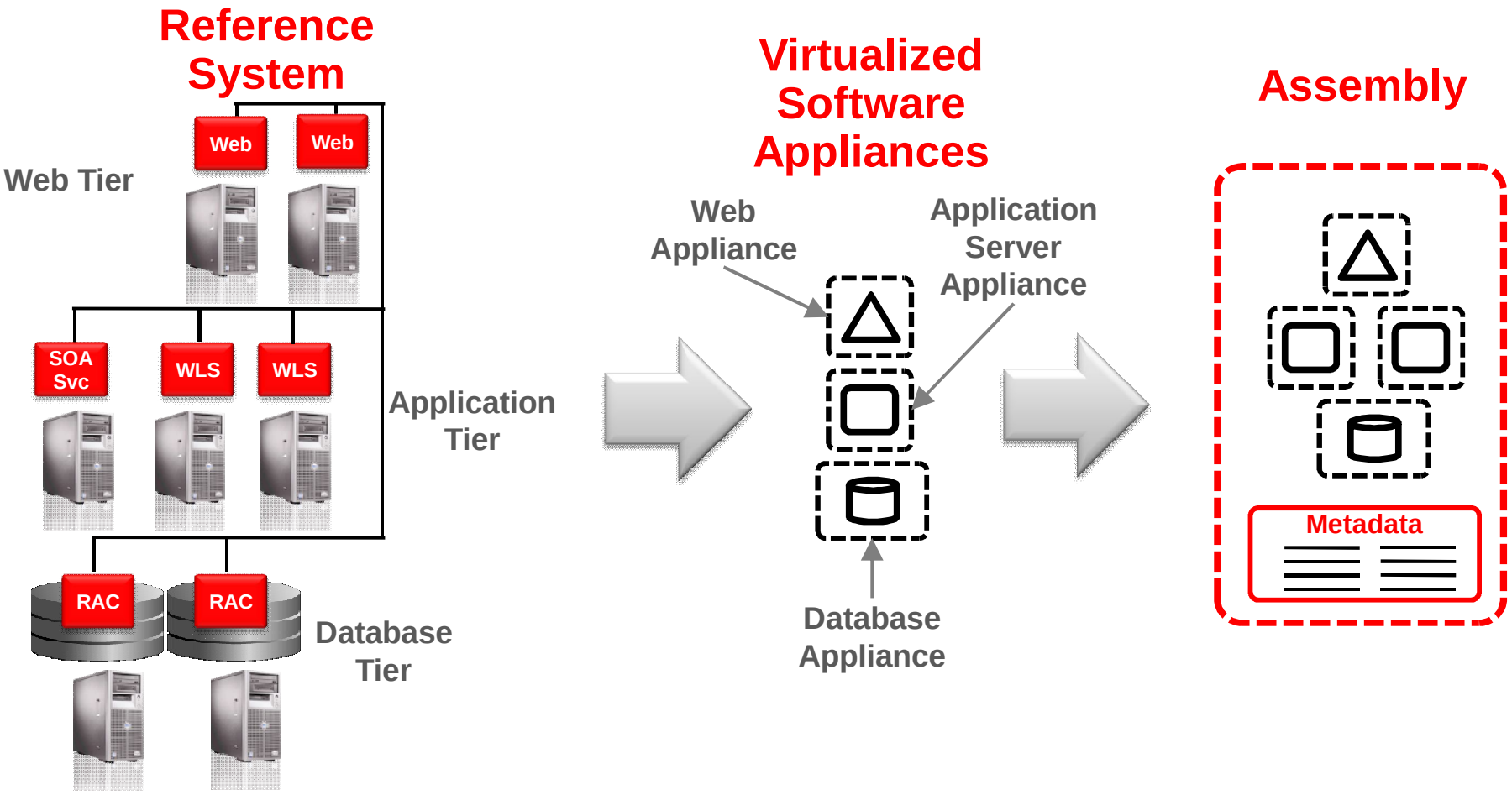



**Oracle Virtual Assembly Builder**

**Oracle WebLogic Server on JRockit Virtual Edition**

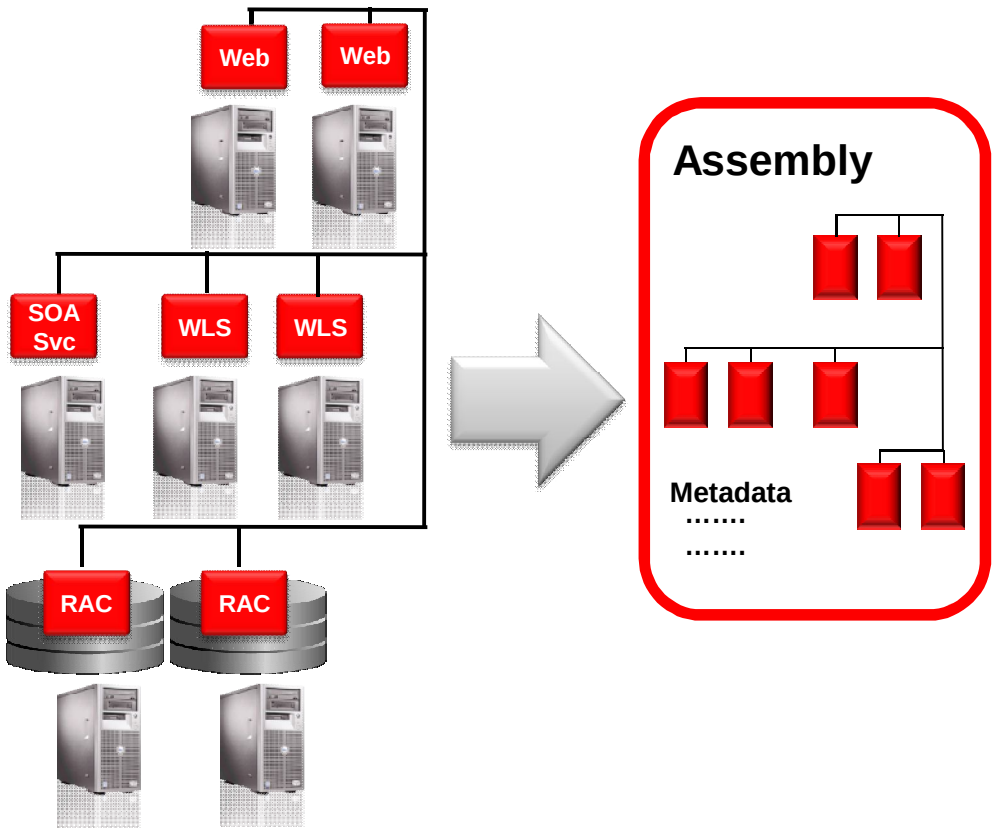
**Oracle JRockit Virtual Edition**

# Transform Complex Multi-Tier Applications into Templatized Building Blocks



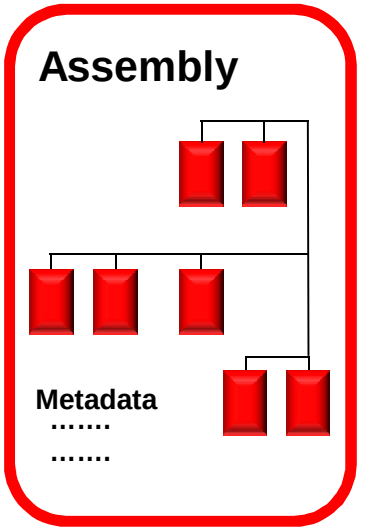
# Oracle Virtual Assembly Builder

- **Application aware virtualization**
  - Package software components into collections of software appliances
- **Standardized building blocks**
  - Create multi-tier application assemblies using virtualized appliances
- **Simplified and rapid provisioning**
  - Single step, template-based deployment of multi-tier applications to virtualized environments

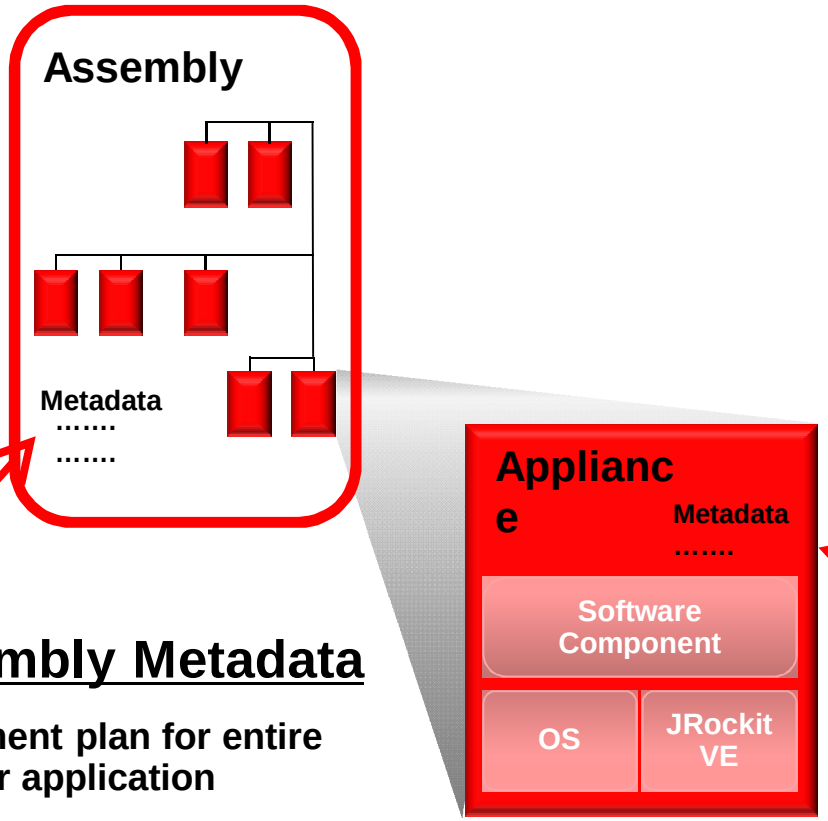


# Why Assemblies?

- **Repeatedly provision entire application environments**
  - Allowing customization without adding complexity
- **Reduce configuration errors**
  - Fewer knobs to turn and get wrong
- **Greater uniformity across environments**
  - Reuse standardized building blocks
- **Accelerates deployment of new infrastructures and applications**
  - Single step, template based deployments



# Assembly Structure




## Assembly Metadata

- Deployment plan for entire multi-tier application
- Wiring connections describing relationships of multiple Appliances
- Appliance start-order dependencies

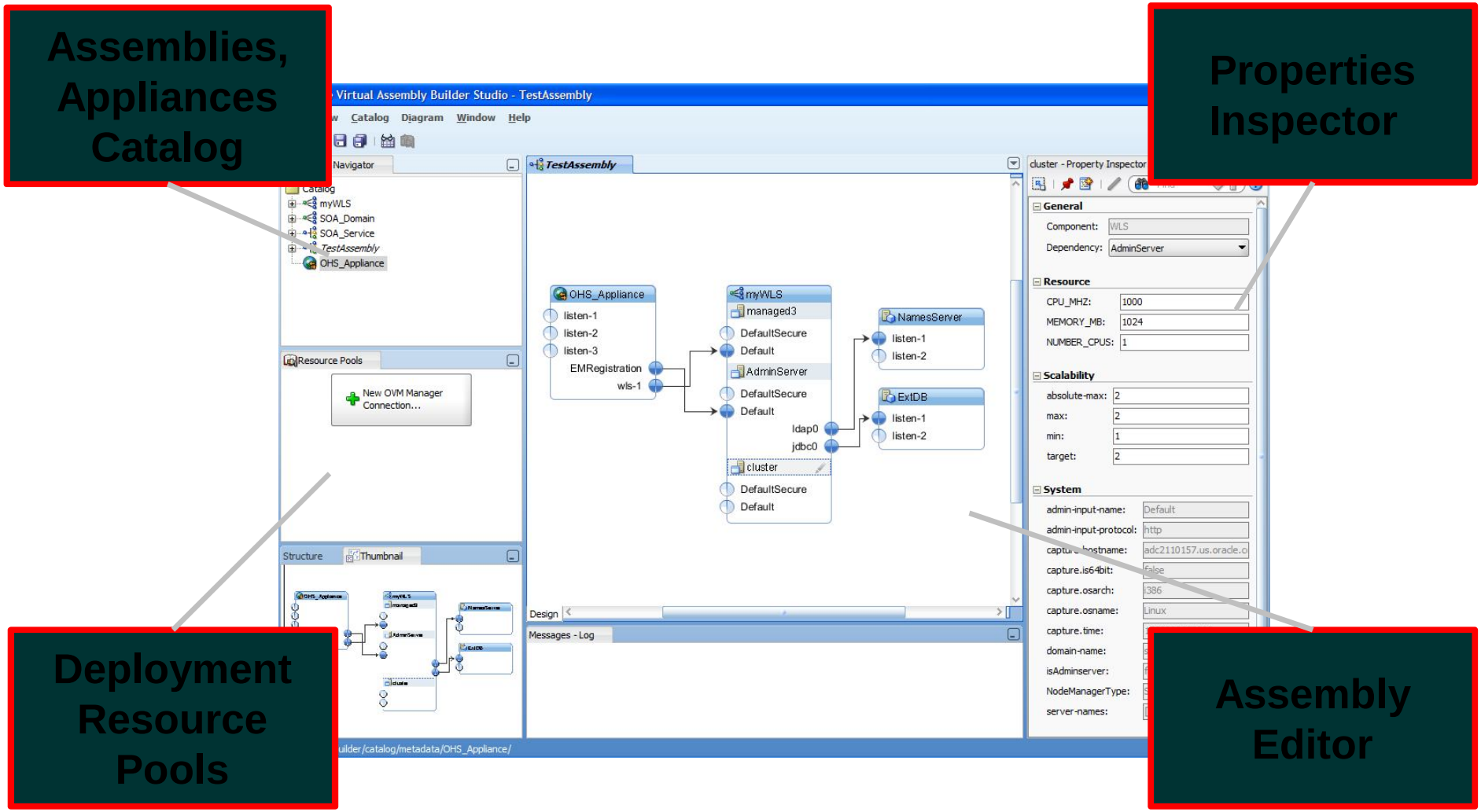
## Appliance

- Bootable VM disk image containing all necessary s/w required to run single component instance
- Optimized for Oracle software
- Templatized for repeatable deployment into Assembly
- Final configuration completed upon start-up

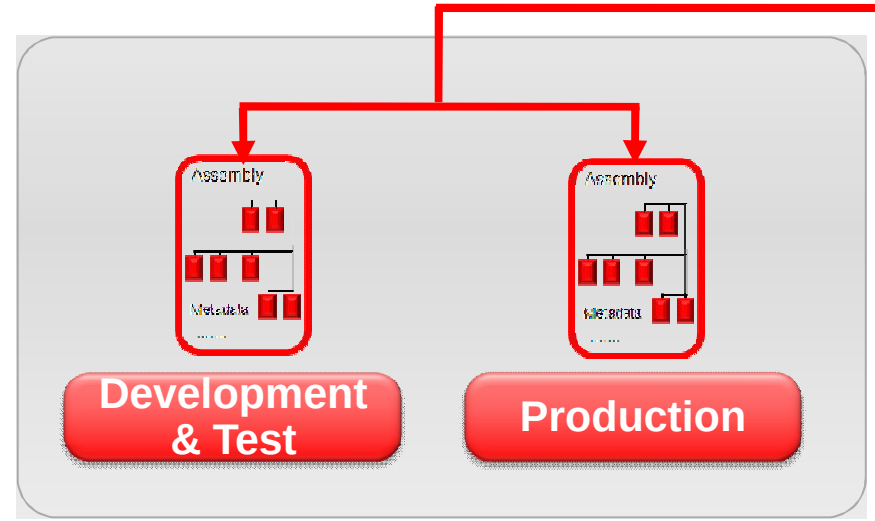
## Appliance Metadata

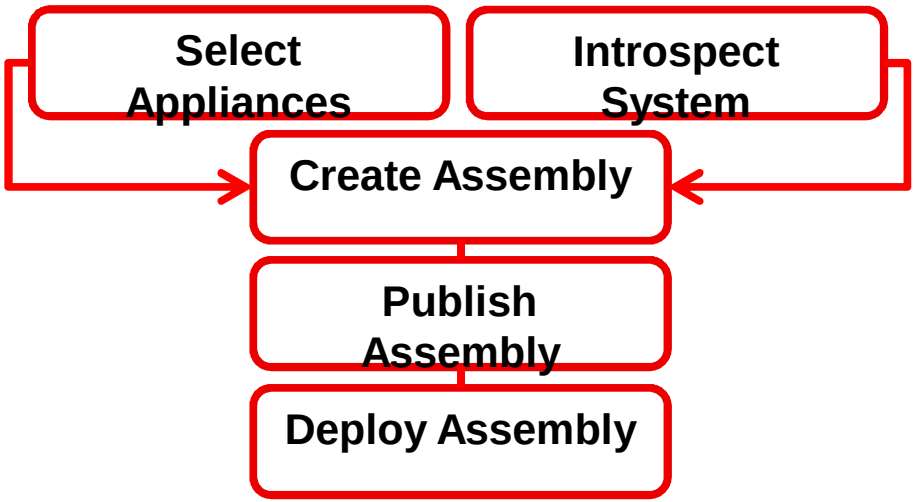
- Component-specific default configuration parameters
- User-specified & dynamic late binding parameters
- Input/output connections
- Scaling requirements
- VM resource requirements

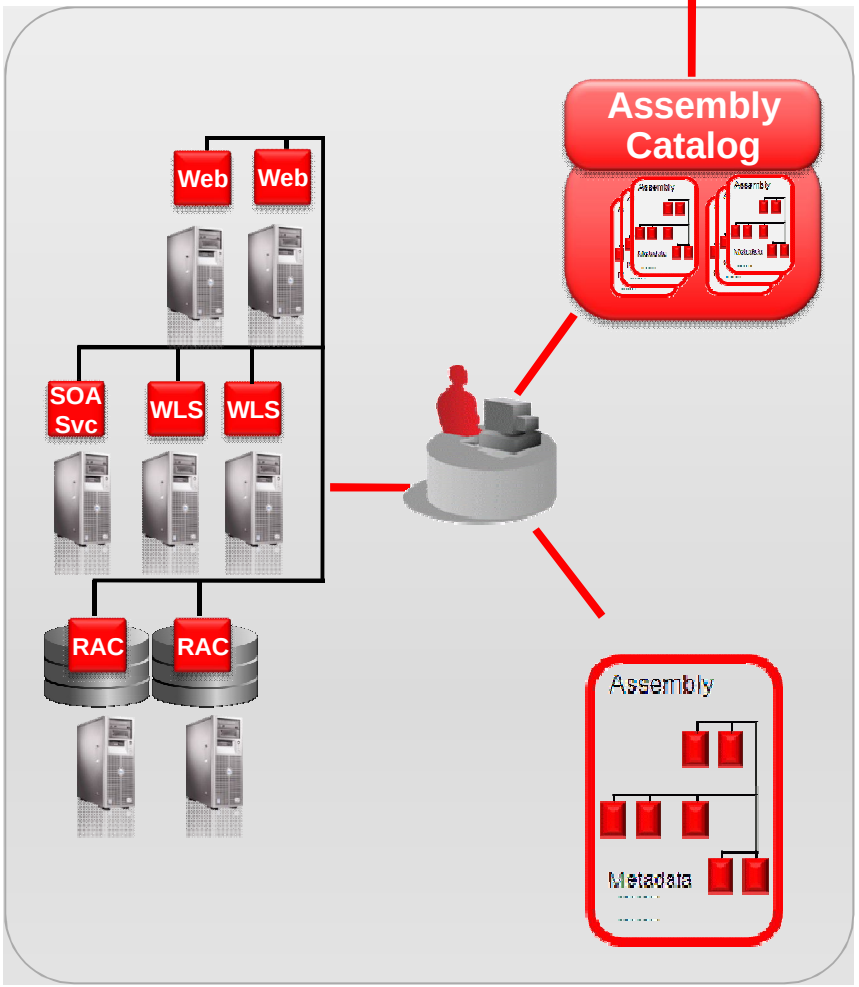
# Oracle Virtual Assembly Builder Studio



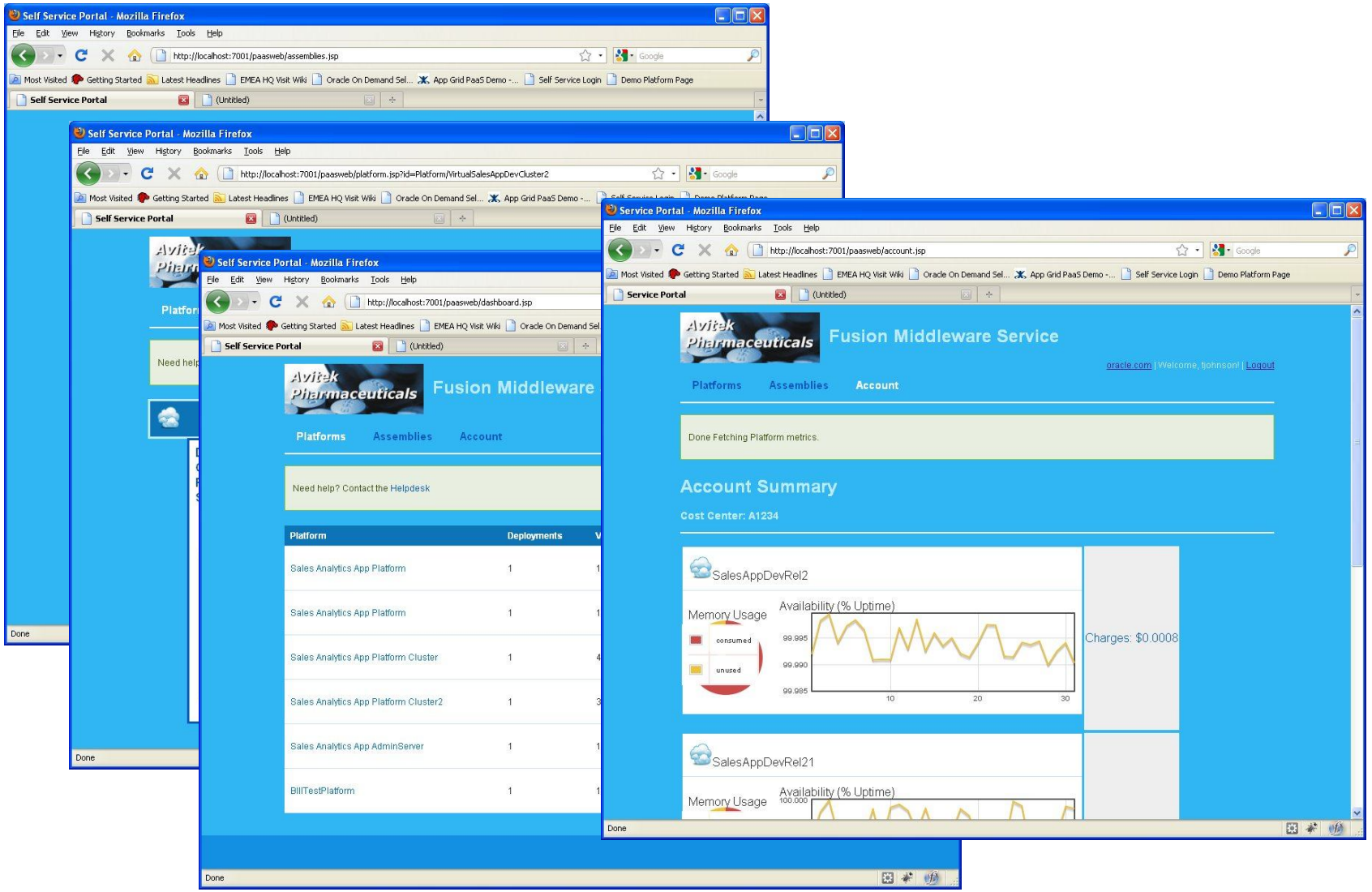
# Assemblies Enable Rapid Deployment



# Example Platform as a Service



# Secret Sauce – All you Need to Build Your PaaS

- Project Funding
- Acquire HW, SW
- Estimate Demand
- Out of Control
- Pay for it All


- Platform Funding
- Use Services Instantly
- Scale OnDemand
- Flexibility & Control
- Pay for what you Use

- IT Operations
- No Manager
- Do it Yourself Design, Build, Run

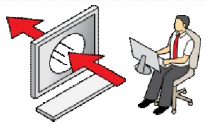

- Platform Ops & Architecture
- Product Manager
- Build, Run on Managed Service

- Proliferation
- Poor Utilization
- Silo' d
- Variable Quality


- Standardization
- Efficient Utilization
- Pooling & Sharing
- First Quality

# Station Managers in our IT Kitchen

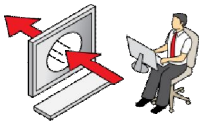
## PaaS Architecture



PaaS Architecture

- Platform Design & Architecture
- Enterprise Architecture Liaison
- Common Infrastructure Services

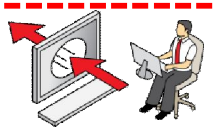
## PaaS Engineering & Product Management



PaaS Engineering

- Build & Test platform (self service, provisioning, automation)
- Capture requirements & communicate roadmap

## PaaS Operations



PaaS Operations

- Service management
- Capacity & Performance management
- Operate Environment

# Oracle Private PaaS Case Study: Credit Suisse

CREDIT SUISSE

Platforms – a key to efficiency

- JAP – Java Application Platform
- CHP – Compute Hosting Platform
- DHP – Database Hosting Platform

- Centralized deployment of 200+ applications
- 35% reduction in operating costs (Run the Bank costs)
- Up to 30% reduction in project costs (Change the Bank costs)
- Prevented 44% increase of power consumption in 4 years, while doubling the capacity
- No downtime incidents 3 years in a row (2007-09)
- No service disruption due to DST patching on stack


Detailed Credit Suisse presentation available

# *Oracle Virtual Assembly Builder Demo*

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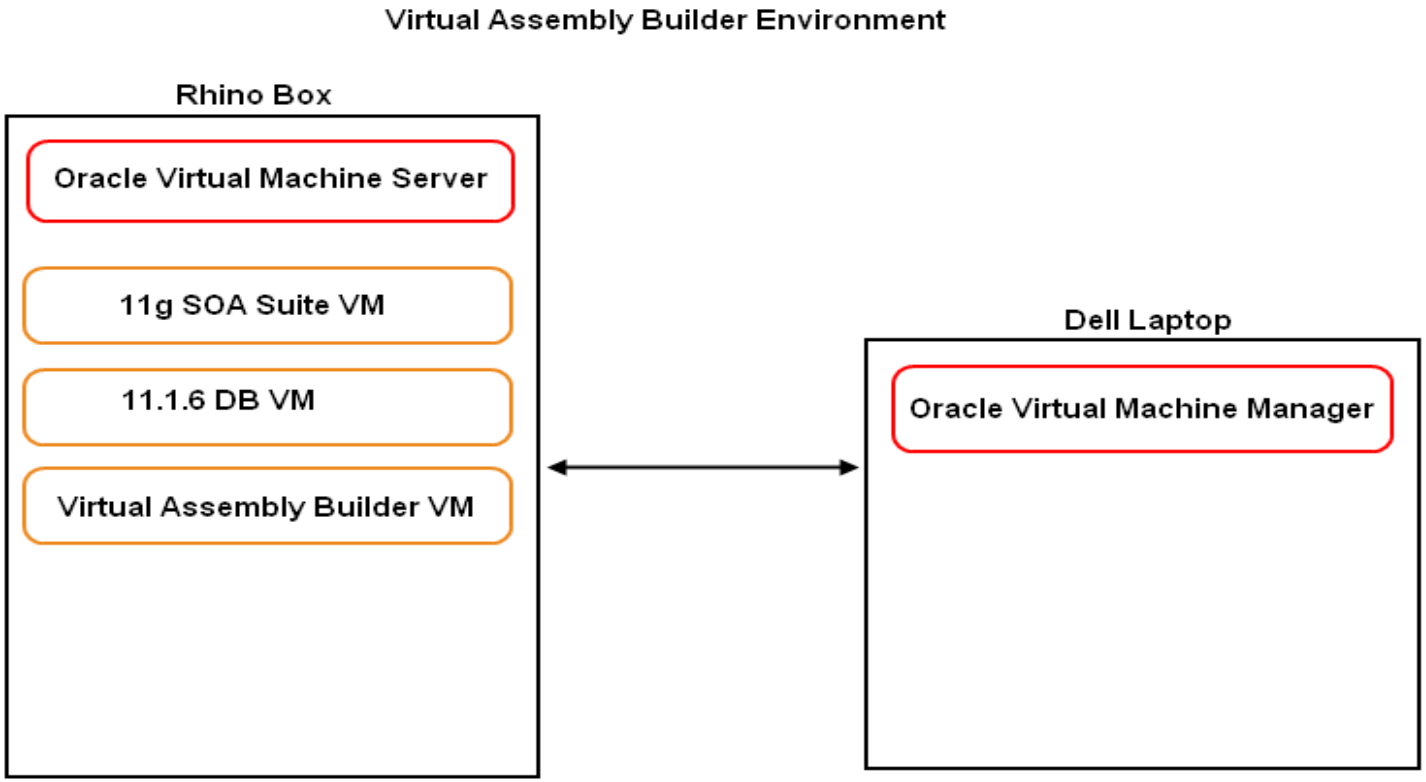
# Demo Environment



# Demo Flow

- **Introspection**
  - Introspecting an existing weblogic install.
- **Create a template**
  - Incorporate a Base Image with the assembly created
- **Create/Associate  a Resource  Pool**
  - OVM Resource pool (s) are associated with the templates
- **Create a Deployment Plan**
  - How will this template be deployed (specific hosts etc)

# Useful Links

**Oracle Virtual Assembly Builder**

http://www.oracle.com/technology/software/products/ovab/index.html

OVM and OVM Templates

http://www.oracle.com/us/technologies/virtualization/oraclevm/index.html

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# Operate Your IT Organization as a Cloud

**Private Cloud is real and delivers > Hardware Savings**

**They are practical and deliver result: 35% reduction in operating costs**

**PaaS delivers highest return for the Enterprise (Opex + Capex)**

**Standardized platforms deliver fastest time to market, lowest cost and best quality**

**PaaS ≠ Revolution**

**PaaS is evolutionary. Innovations such as Assemblies and Java Virtualization delivers faster more reliable deployment**

***Reduce IT Operating Costs, Improve Service Level and Pace of Innovation***

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