

SIG Talk: IT Operations - ITSM/ Hybrid Cloud Management

March 15, 2018

Today's Speakers:



Eric Krueger
Principle ITSM Consultant
StrataCom



David Angradi
Sr. Director
Sales & Business Development
Coda Global



Troy Vetter
Managing Partner
Solutions and Delivery
Coda Global

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Webinar to begin shortly





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COMMUNITY



SIG Talk: IT Operations - IT SMA/ Hybrid Cloud Management

March 15, 2018



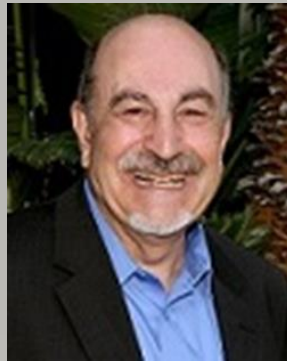
Welcome to



YOUR INDEPENDENT MICRO FOCUS SOFTWARE USER COMMUNITY



Hosted By



Rocky Pisto
Vivit LUG and SIG Leader

YOUR INDEPENDENT MICRO FOCUS SOFTWARE USER COMMUNITY



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Webinar Housekeeping



The screenshot shows a webinar interface with a presentation slide titled "Building the DevOps Tool Chain" dated "January 17, 2017". The slide features the Vivit logo and the text "Discover the independent HPE software user community where you can share, collaborate, exchange, and grow". The slide is part of a presentation of 27 slides, currently on slide 2. The interface includes a Q&A section with the text "Ask a question" and an "Ask" button, and a "DOWNLOAD FILES" section with a table showing "No file Found". The bottom of the interface displays the dial-in number, conference ID, and user ID.

Slide 2 of 27

LOGO/PICTURE

Q&A

Ask a question

Ask

DOWNLOAD FILES

File Name	Size
No file Found	

Folder: All Files

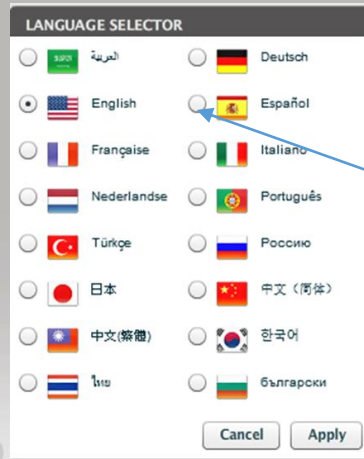
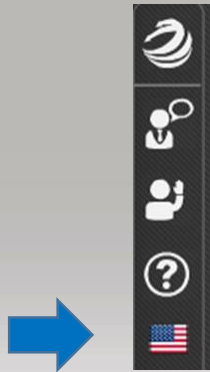
Dial-In #: VoIP or 415-926-7795 or [International Numbers](#) Conference ID: 0866-2702 User ID: 280895

- This “LIVE” session is being recorded
- Recordings are available to all Vivit members
- To enlarge the presentation screen, click on the rectangle in the upper right hand corner of the Presentation pane



Webinar Control Panel

- Session Q&A:
Please type questions in the Q&A pane and click on “Ask”
- Choose the language in which you would like to ask your questions



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IT Operations

Share IT Operations Best Practice solutions with your peers. Join the SIG Talk - IT Operations for a 12-18 minute presentations. Events will be schedule the third Thursday of the month. Give back to the community that has supported IT Operations Solutions for 25 years. Contact me to schedule your SIG Talk Session rocky.pisto@vivit-worldwide.org.

- Data Center Automation (DCA)
- Data Protection (DP)
- Hybrid Cloud Management (HCM)
- Network Operations Management (NOM)
- Operations Bridge (OpsB)
- Service Management Automation (SMA)

YOUR INDEPENDENT VIVO FOCUS GROUP USER COMMUNITY



Agenda

- **Everything you need to know about the Micro Focus ITSMA Containers Concept-**
 - Speaker: Eric Krueger, Principle ITSM Consultant, StrataCom
- **A “real” migration into the Hybrid Cloud (HCM, PlateSpin, and Cloud Assess):**
 - Speakers: Troy Vetter and David Angradi
- **Questions and Answers**

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Docker Deployment of ITOM Suite

Agenda

- What is Docker/Kubernetes?
- How has Micro Focus utilized the technology
- Container Deployment methodology vs Classic deployments
- How will future upgrades be affected?

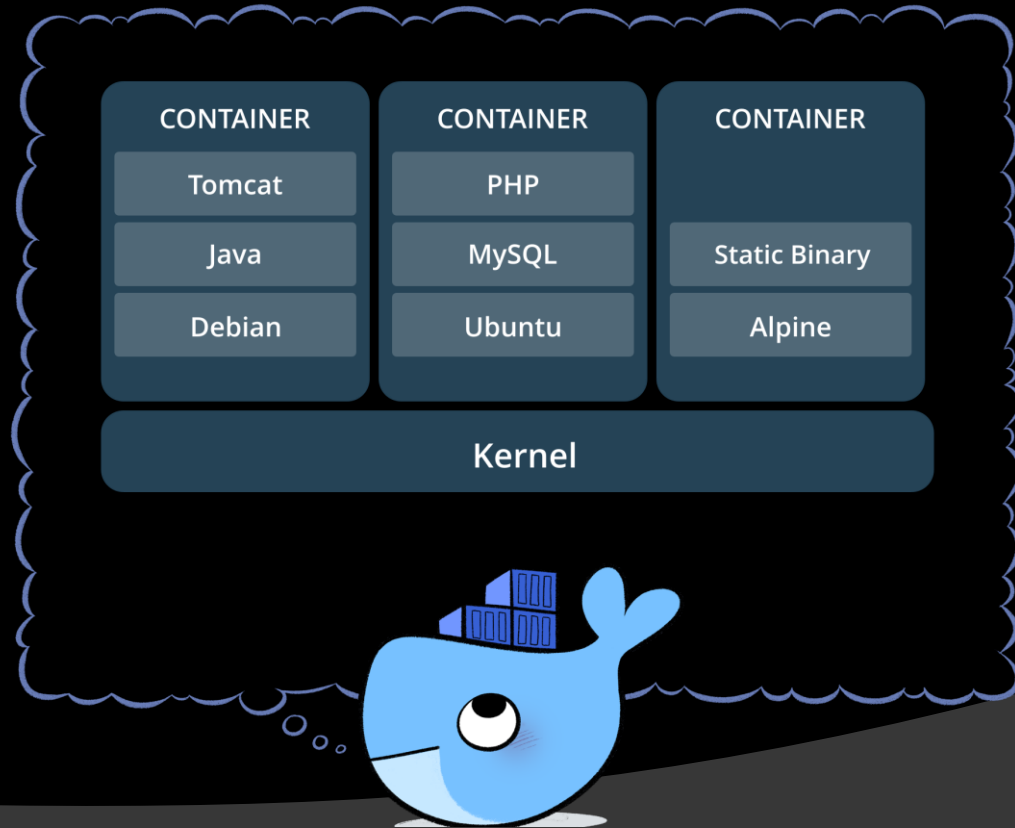
What is Docker/Kubernetes?

- Docker is a company that is driving the 'container' movement across the Enterprise
 - Officially launched March 13th, 2013
- Kubernetes is an open-source platform, developed primarily by Google, for managing containerized workloads and services
 - Released July 21st, 2015

What Are Containers?

- A container image is a lightweight, stand-alone, executable package of a piece of software that includes everything needed to run it: code, runtime, system tools, system libraries, settings
- Containers isolate software from its surroundings, for example differences between development and staging environments and help reduce conflicts between teams running different software on the same infrastructure.

Containers



Benefits of Containers

- *Lightweight*—Containers share the underlying OS Kernel and use less CPU and RAM than apps installed on individual machines
- *Standard*—Based on open standards and run on Linux, Microsoft and Cloud environments
- *Secure*—Docker containers isolate apps from each other and from the underlying infrastructure

How are containers different than Virtual Machines?

- Virtual Machines:
 - The software must be installed on each server
 - All pre-requisites must be loaded on each server
 - Conflicting software cannot run on the same machines
 - Each additional software install that requires a new OS wastes CPU and Memory
 - Instant on—instead of booting an OS, you are just starting the container

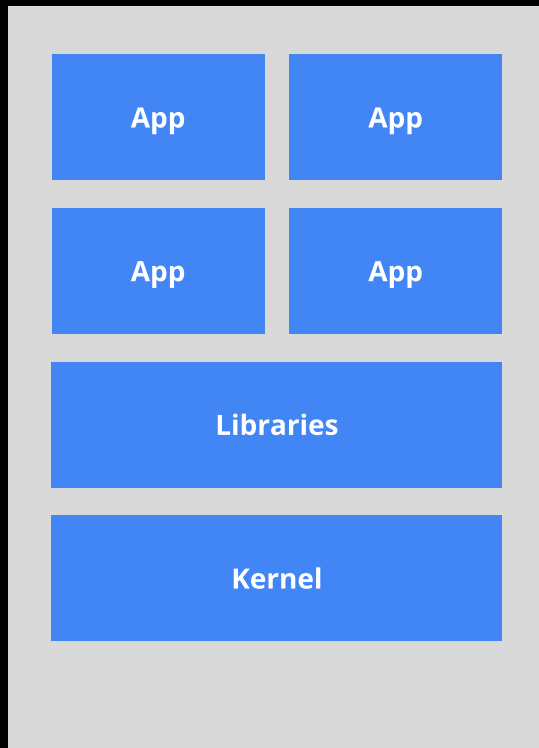
Docker

- Only the Docker software must be installed on each machine
- Conflicting software can run on the same hardware
- Even multiple instances of the same software can run on the same machine
- Software pre-requisites are packaged in the containers and do not need to be loaded on the underlying machines

Why do developers love containers?

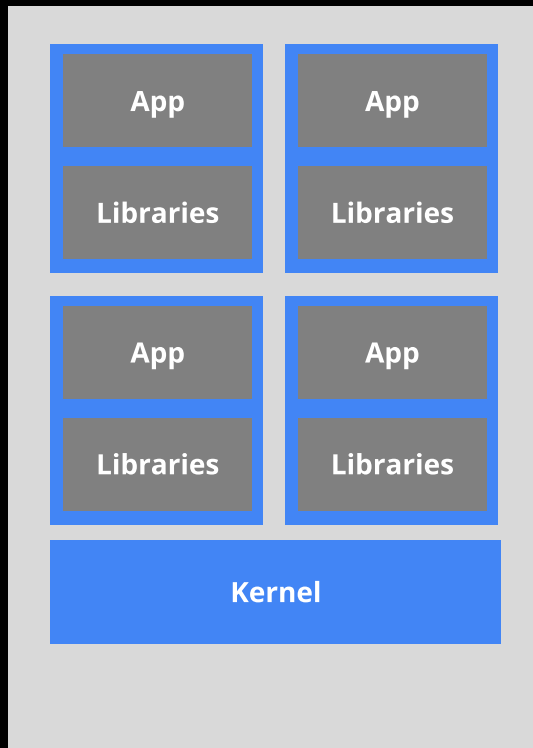
- Easy deployment—I can write a .NET app and deploy it to any Windows server running Docker, MS Azure, Amazon AWS, etc
 - Very little setup-as long as the environment I'm deploying to is running Docker, my app will run
 - No more installing all the prerequisites software needed by each machine, I just deploy my Docker container

The old way: Applications on host



*Heavyweight, non-portable
Relies on OS package manager*

The new way: Deploy containers



*Small and fast, portable
Uses OS-level virtualization*

What is Kubernetes?

- Kubernetes provides a **container-centric** management environment
- Orchestrates computing, networking, and storage infrastructure on behalf of user workloads
- Kubernetes is not a traditional, all-inclusive PaaS (Platform as a Service) system
- provides some generally applicable features common to PaaS offerings, such as deployment, scaling, load balancing, logging, and monitoring

How is Micro Focus utilizing Docker/Kubernetes

- Applications are being 'containerized'
- Each container contains a 'micro-service', i.e. the SM rte, chat ui, chat svc, etc
- Kubernetes is used to link all the micro services together
- Deployment of the suite includes all the micro services integrated and working

Process to install ITOM suite

- Deploy requisite number of Linux servers (minimum 2)
- Download and install Container Deployment Foundation (CDF) on primary Linux server
- Deploy CDF to 'worker' servers via the CDF web interface
- Download Docker images from repository
- Deploy Docker images via the CDF web interface

Advantages over traditional deployments

- Suite components are deployed already connected to each other
- You won't need to install each piece of software separately and connect them all
- Resources are spread evenly between computing resources
 - Normal, lightly used applications, i.e. Chat Service no longer waste resources on unused machines

Advantages over traditional deployments continued...

- Containers can be moved from machine to machine
- Containers do not contain any 'state' information and are can therefore be destroyed and created on any resource
- New resources can be added on-the-fly
 - For example, you can add new servers during high-use times without installing and application software.
 - Just add the hardware and deploy more containers to it

Micro Focus Specific Info

- Most of the ITOM suite is containerized, but there are a few exceptions
 - uCMDB Windows Agent server
 - Not yet containerized
 - On the road-map
- You can mix traditional deployments with containerized
 - i.e. Deploy Service Portal on Docker and connect up with Service Manager standard deployment

Micro Focus Specific Info continued...

- Currently, SQL server deployments of uCMDB or Service Manager are not support
 - Only Oracle is currently supported
- Windows deployments are not supported for Service Manager and uCMDB
 - Linux-only containers are created, and must be run on Linux

Moving between deployments

- Because the containerized versions of the ITOM suite are identical to the standard builds, you can move most of the items either into a Containerized environment or move them out of containerized into a standard deployment
- Things such as .ini files, log files and data is held in non-containerized places
 - NFS Shares
 - Oracle Database
 - etcd files
 - Postgres database
- Service Portal is only available in Container
 - This is the exception and there is no current standard build for this product

CDF Upgrades?

- Previous versions of the ITOM suite needed a complete uninstall/reinstall of the underlying CDF software
- Micro Focus has said the February release of CDF would not need to be uninstalled for the next release
- Completely simplifies upgrades

Future upgrades

- For most products, future upgrades will be simple
 - Download the new docker images
 - Deploy
- Some products may need minor work for application upgrades
 - Service Manager-app upgrades may still need to be done
 - SRC – branding may need to be migrated

Existing Docker Infrastructure

- Many companies are using Docker to manage at least part of the app deployment portfolio
- Can you use your Docker standard versions, etc to manage the Micro Focus applications?
 - The current answer is 'No.'
 - The CDF contains specific versions of Docker/Kubernetes objects which currently must be used with the containers
 - It's possible this may change in the future

Final Thoughts...

- Each version of ITOM containers has gotten easier to install and has had less install problems
- Managing the CDF infrastructure is quite different than managing a standard deployment
 - In some sense, it's easier because you have one interface to manage your entire deployment
 - There is a learning curve to learn how to generate logs, restart containers, add additional compute capability etc
 - Moving from having servers dedicated to applications to more of a 'server farm' concept will take some time on the infrastructure side
- If you have existing Docker expertise, you are definitely at an advantage because even though everything runs out of MF's CDF, it is still standard Docker and Kubernetes, so 90% of your Docker knowledge will hold true

Questions

Your main StrataCom Contact is:

Eric Krueger

Principal Consultant

ekrueger@stratacominc.com

The background of the slide features a blurred image of a person in a dark suit holding a transparent digital interface. The interface displays various cloud computing icons: a server rack, a smartphone, a cloud with a globe, a database cylinder, a monitor and server tower, and a tablet. The icons are connected by a network of thin white lines. A large, dark purple triangular shape is overlaid on the bottom left corner of the image.

Hybrid Cloud Management

David Angradi

Troy Vetter

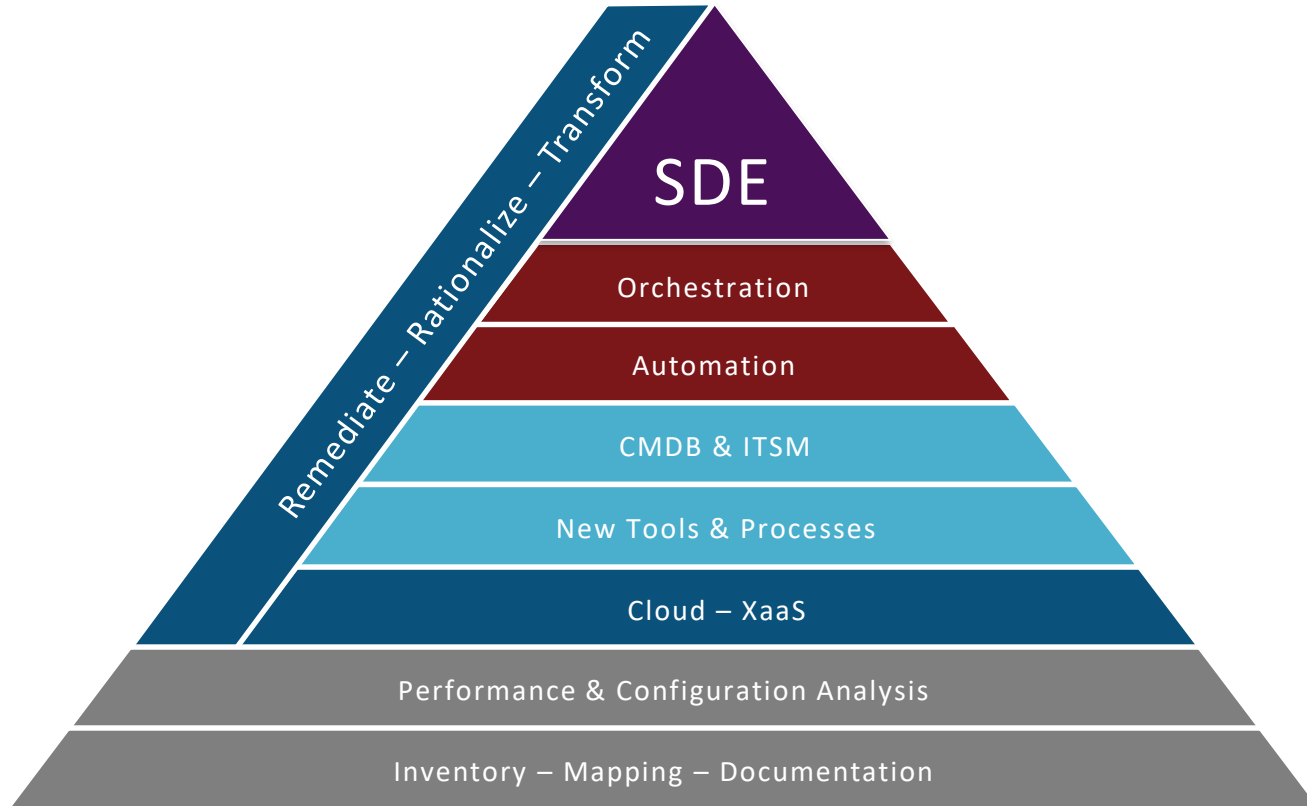


Critical Customer Challenges – Most Commonly Seen

- Limited or no visibility into Application and DC dependencies
- Difficulty in managing complex environments
 - Too many clouds, tools and applications
- Incomplete automation, too much manual work and custom integrations
- Too much tribal knowledge
- Siloed support teams (VMware, AWS, Azure, etc.)
- Mixed platforms increase complexity, adding time to migration projects
- Difficulty in managing multiple provider interfaces
- Customizations often created to “get it done” without the overall goal in mind

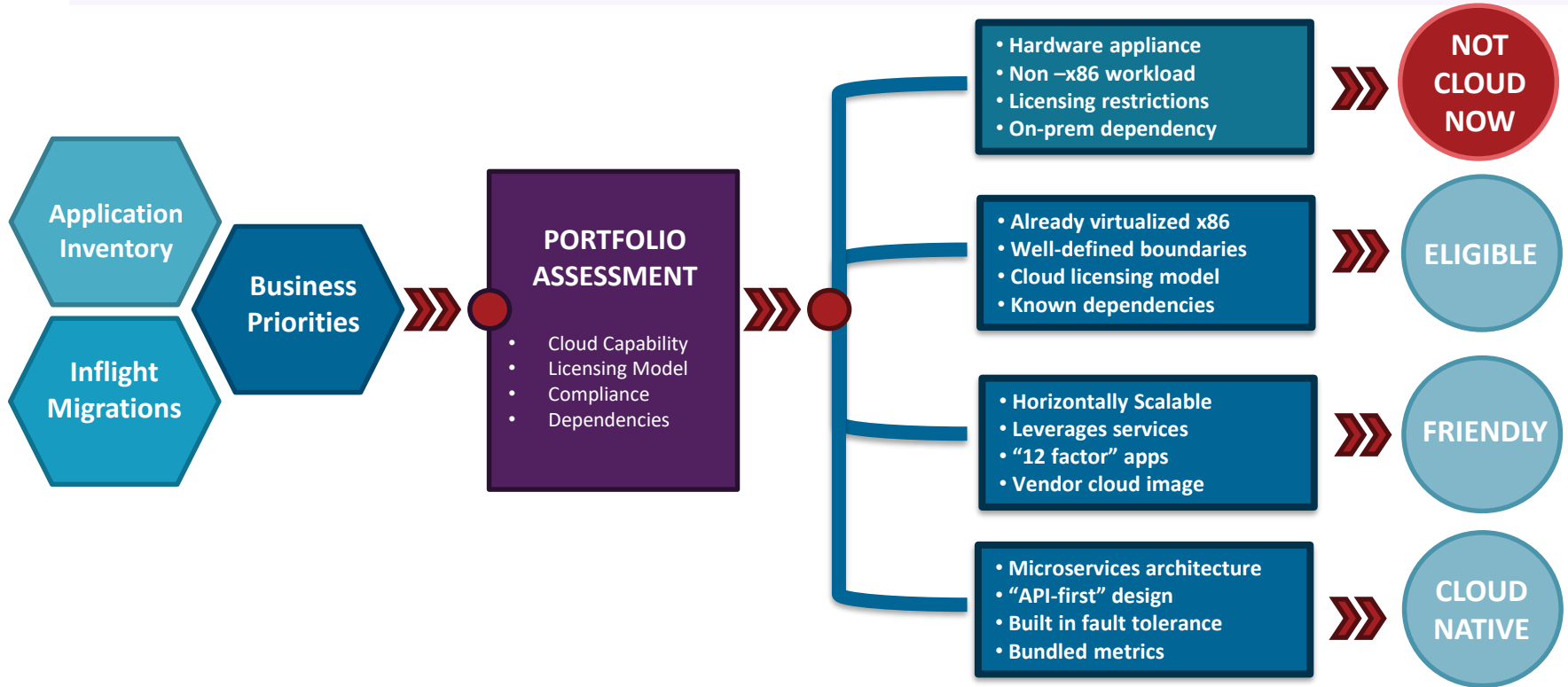


Defining The Journey





Assessment Process





Path to Hybrid Begins with Private Cloud

Improving IT Operations



**Automate beyond
virtualization**



**Orchestrate IT
Processes**

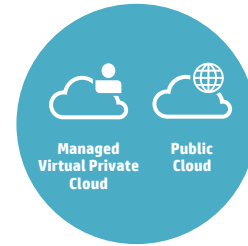


**Transform App &
Service Delivery**

Hybrid Cloud



**Deploy & Manage
Private Cloud** with
traditional apps



**Accelerate
complex
applications** to the
hybrid cloud

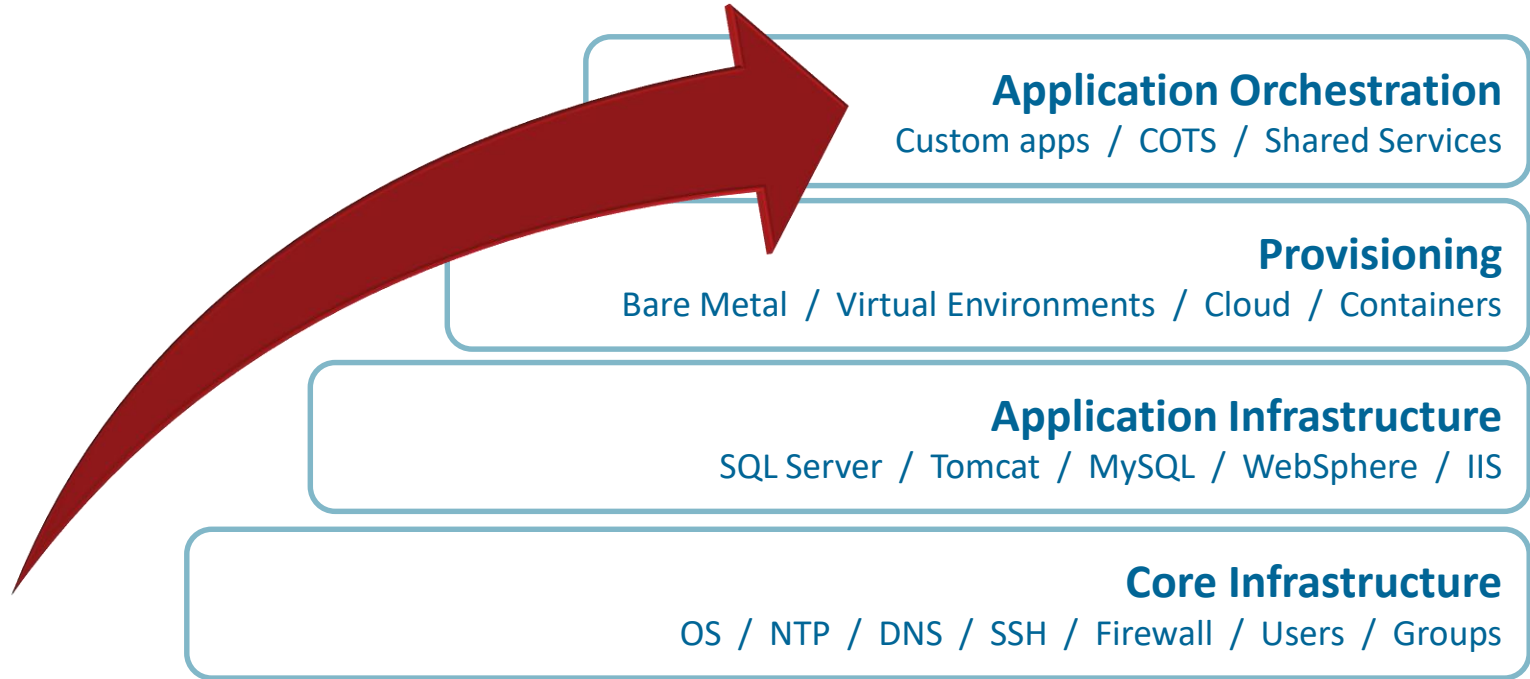


**Bridge, Broker
and Manage** Cloud
Services

Enterprise IT becoming an internal service provider



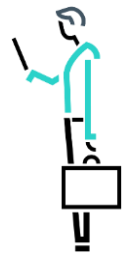
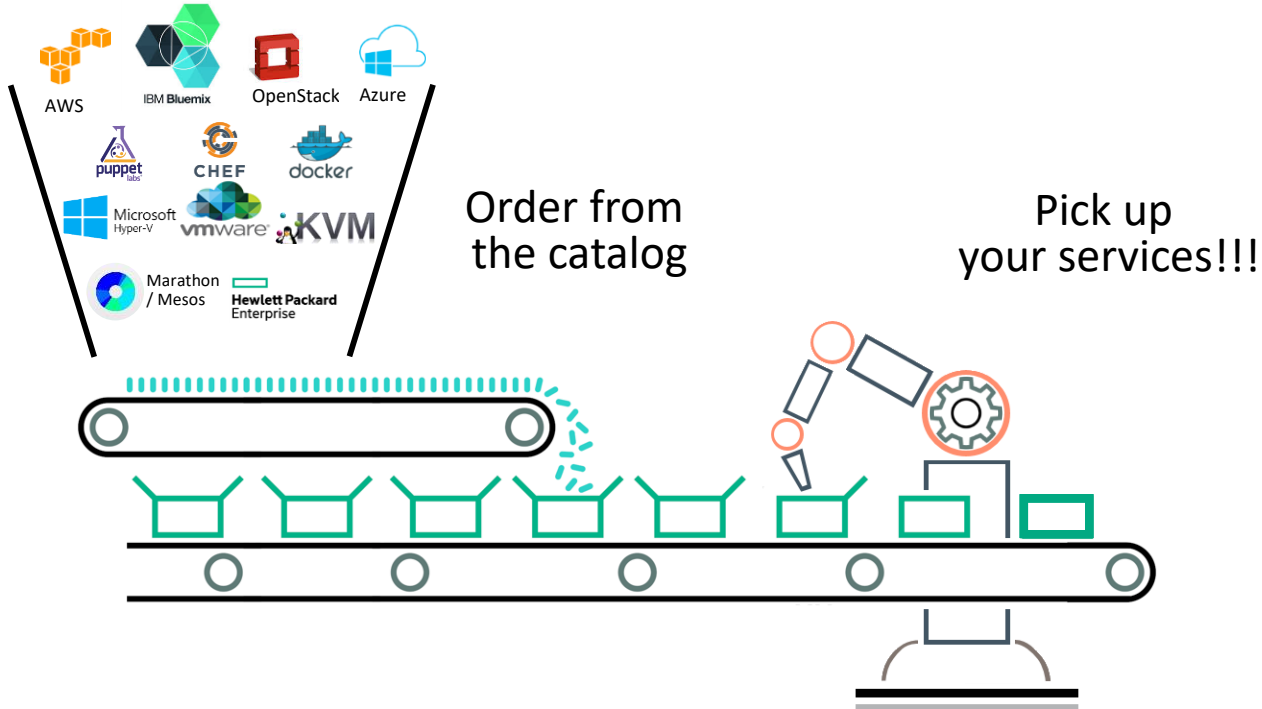
Start With Automation





Hybrid Cloud Management

Unify control of any cloud, any environment, any technology





Hybrid Cloud Workload – Suggestions

- Requires a solid foundation
 - Make informed decisions on which provider and why
 - Run load tests and understand not only what you are doing, but what you can do
 - Know your limits and how to address with minimal to no downtime
- Plan to scale
 - Are your application/services capable of scaling properly?
 - Identify constraints and build a road-map to overcome, stop “dealing with it”
- Server Migration between Providers
 - Requires the right tool(s)
 - IAC helps can easily miss customizations post-provisioning
 - Direct server to server migration is easiest, but only if successful



Hybrid Cloud Workload - Suggestions

- Leverage Containers
 - Reusability
 - Ease of upgrade/downgrade with no downtime
 - Soak test upgrades
 - Easy to manage regardless of provider
- Define critical services
 - Secure: On-premise/private
 - Non-secure with connections to secure:
 - Public with correct security measures
 - Private/On-Premise is a safe option
 - Non-Secure: Public
- Automation
 - Integrate all places
 - Custom does not mean manual



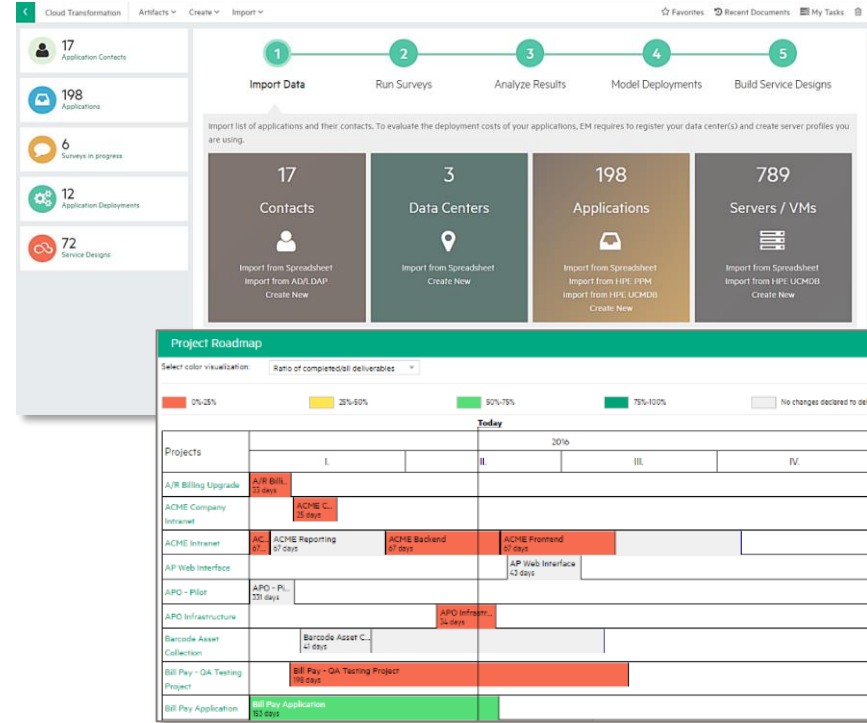
Most Common Use Cases – What Can Be Done?

Build	Triage	Request
Full Stack Provisioning <i>Automated full stack provisioning of physical or virtual infrastructure, including: OS; database; network; storage; security; compliance; patching policies; monitoring within an ITIL compliant framework</i>	CLIP – Closed Loop Incident Process <i>Link monitoring and ticketing with automation to dynamically triage or resolve incidents while managing and escalating all appropriate service and change tickets</i>	Change Configuration & Change Management [CCRM] <i>Automate ITIL processes for change, configuration and release management.</i>
Automated Regression Testing <i>Utilize Orchestration with Quality Center to execute QC scripts on demand or upon application deployment</i>	Service Restart <i>Automate service restarts when soft/hard failures are detected</i>	Self-Service Request Portal <i>Facilitate automation of a service request catalogue or request portal for IT services</i>
Automated Patch Deployment <i>Dynamically schedule and execute patch windows for server groups</i>	Perform Health Checks <i>Proactively run system health checks against a range of devices or applications.</i>	On-board / Off-board Employee <i>Request and automate task around employee on-boarding and off-boarding.</i>
Automate Build of IaaS, PaaS or SaaS <i>Utilize Orchestration in conjunction with existing strategic IT investments to enable automated service delivery</i>	Disaster Recovery <i>Facilitate failover between application or datacenter environments by automating the large number of tasks associated with failover.</i>	Password Reset <i>Provide mechanism for customized password reset [environment-wide or user-specific]</i>
Automated Environment Promotion <i>Link Orchestration to code repositories to build, stage and deploy code and/or promote applications, move codebase between applications</i>	Automate Batch Job Processing <i>Utilize Orchestration processing logic for batch processing jobs, including automated actions for failure and success states.</i>	Facilitate IaaS, PaaS or SaaS Requests <i>Use process automation to drive automated IaaS, SaaS and PaaS provisioning</i>
Automate Environment Capacity <i>Utilise Orchestration with capacity monitoring to provision just-in-time system/application capacity.</i>	Automate Triage <i>Monitor alert triggers triage and automatically escalate to the right team.</i>	
Complex Database Deployment <i>Facilitated, automated deployment of Oracle RAC, DB2 etc</i>	Intrusion Response <i>Automated System Response to intrusion alerts, send escalations and automate specific response actions.</i>	
Complex Multi-Tier Application Development <i>Configure and deploy multi-tiered applications</i>	Redundant Task <i>Automate redundant tasks, including examples like:</i> <ul style="list-style-type: none">▪ Extend temporary table space in databases▪ Facilitate complex log rotation▪ Clean up /tmp space on servers▪ Clean up and report on large files within filesystems	



Cloud Assess

- Discover, collect & analyze existing apps & infrastructure
- Know your pain points & limitations in your current infrastructure
- Provide capability to make informed decisions
- Make cost-effective scaling decisions
 - Horizontal
 - Vertical
- Heatmaps to known critical utilization levels
- Create comprehensive cloud migration roadmap

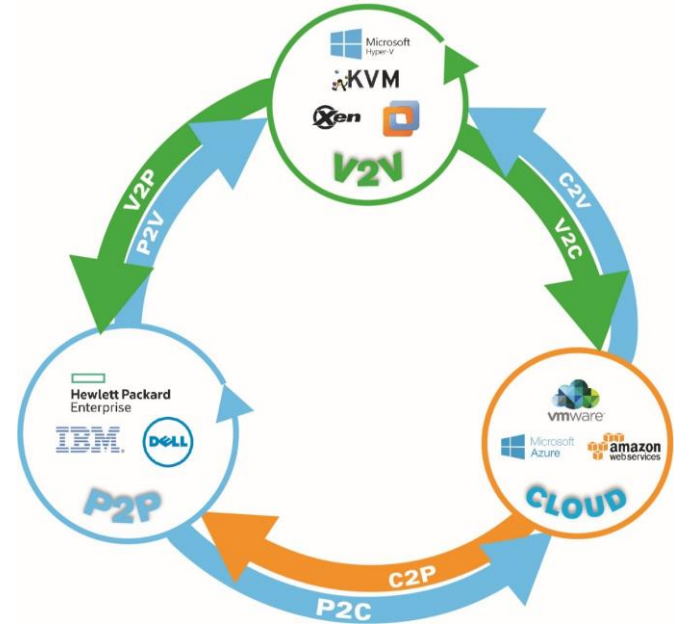




Cloud Migration - PlateSpin

Rapidly migrate servers from anywhere-to-anywhere at least amount of risk and cost.

- ⦿ **Automated, unlimited testing** to ensure successful migrations
- ⦿ **Near-zero downtime** at cutover for minimal service disruption
- ⦿ **Anywhere-to-anywhere** server migration, between physical servers, virtual servers and the cloud
- ⦿ **Highly scalable** solution migrates multiple servers rapidly and reliably
- ⦿ **Industry-leading automation levels** reduce manual effort





Hybrid Cloud Management

- Design once, deploy anywhere
- Brokering, orchestrating, and managing application workloads
- Assist with managing:
 - Multiple Clouds
 - Containers
 - Applications
 - Services
 - Lifecycle
- Self-Service Hybrid IT experience
- Customizable service portal

The image displays two screenshots of the Cloud Service Automation (CSA) interface. The top screenshot shows the 'CSA Dashboard' with various metrics and charts. The bottom screenshot shows the 'Browse Catalog' view with a list of service offerings.

CSA Dashboard Metrics:

- COMPUTE PROVIDER DISTRIBUTION SUMMARY: 3 (1 Microsoft Azure, 2 Microsoft AWS)
- SUBSCRIPTION FULFILLMENT COMPLETED (LAST 30 DAYS): 27 (22 Successful, 5 Failed)
- TOP 10 POPULAR OFFERINGS: 7 Published Offerings (3 Dummy, 2 mySQL, 2 Dummy)
- ALL REQUESTS (LAST 24 HOURS): 3 (12 am - 6 pm, 0 pm - 11 pm)
- SUBSCRIPTIONS BY ORGANIZATION: 27

Service Catalog Offerings:

Offering Name	Price
AWS EC2 Instance behind LB with DB and Storage Offering (0.0.0)	\$ 75.00 + \$ 150.00 yearly
AWS EC2 Instance behind Load Balancer (0.0.0)	\$ 90.00 + \$ 180.00 yearly
Widely Certified by Microsoft (on-premises) (0.0.0-2 on Ubuntu 16.04)	\$ 1,000.00 + \$ 5,000 yearly
Microsoft Azure Compute - Advanced Offering (0.0.0)	\$ 0.00 + \$ 0.00 yearly
Dockercloud Deploy and run container (0.0.0)	\$ 0.00 + \$ 0.00 yearly

A blurred photograph of a group of people in a meeting or collaborative work environment. They are gathered around a table, looking at a large display or board covered with colorful sticky notes. The scene is brightly lit and conveys a sense of teamwork and professional collaboration.

Thank You

Upcoming Vivit Webinars

March 28, 2018

Accelerate High-Quality App Delivery with the Micro Focus DevOps Suite

8:00 - 9:00 AM PST (Los Angeles), 12:00 PM - 1:00 PM EST (New York), 18:00 - 19:00 CET (Frankfurt)

<https://vivitworldwide.site-ym.com/events/EventDetails.aspx?id=1073322&group=>

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