

**VIRTUAL  
APPLIANCES**  
LEADERSHIP  
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# Simplifying The Customer Experience

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## In the beginning.....

- Computing and storage were very expensive
- Networks had very limited bandwidth
- Mainframes ruled the earth
- Applications ran centrally
- IT was the single point of delivery and service





And we “evolved” .....

To multiple HW platforms

... operating systems

... middleware layers

... client server computing



● ● ● | And we saved tons of money.....

- Broke the “IBM monopoly”
- Leveraged open source software
- Moved to PC servers
- Wrote thick clients



## But the savings stagnated

- Hardware got “super cheap”
- Bandwidth fast & cheap

Yet costs continued to rise – mostly due to

- Complexity
- Integration costs
- Utilization
- Maintenance



● ● ● | New technologies will take IT to the next wave.....

- SaaS
- Virtual SW Appliances
- Cloud Infrastructure





# The Challenges

- One Application
- Many HW platforms
- Tons of custom “middleware”
- Many OS qualifications
- The customer perception remains “*How come you don’t test this SW*”
- The problem is simply that every Enterprise SW installation is unique!
- Software vendors spend too much time on integration vs functionality



# Today's IT Delivery Models

## Enterprise IT

Applications

Admin & Security

Operating Systems

Hardware



## SaaS

Applications







## A Binary Choice

### Enterprise



- Complete control
- Own everything (H/W,S/W, etc)
- Upfront investment
- Ongoing Support Costs



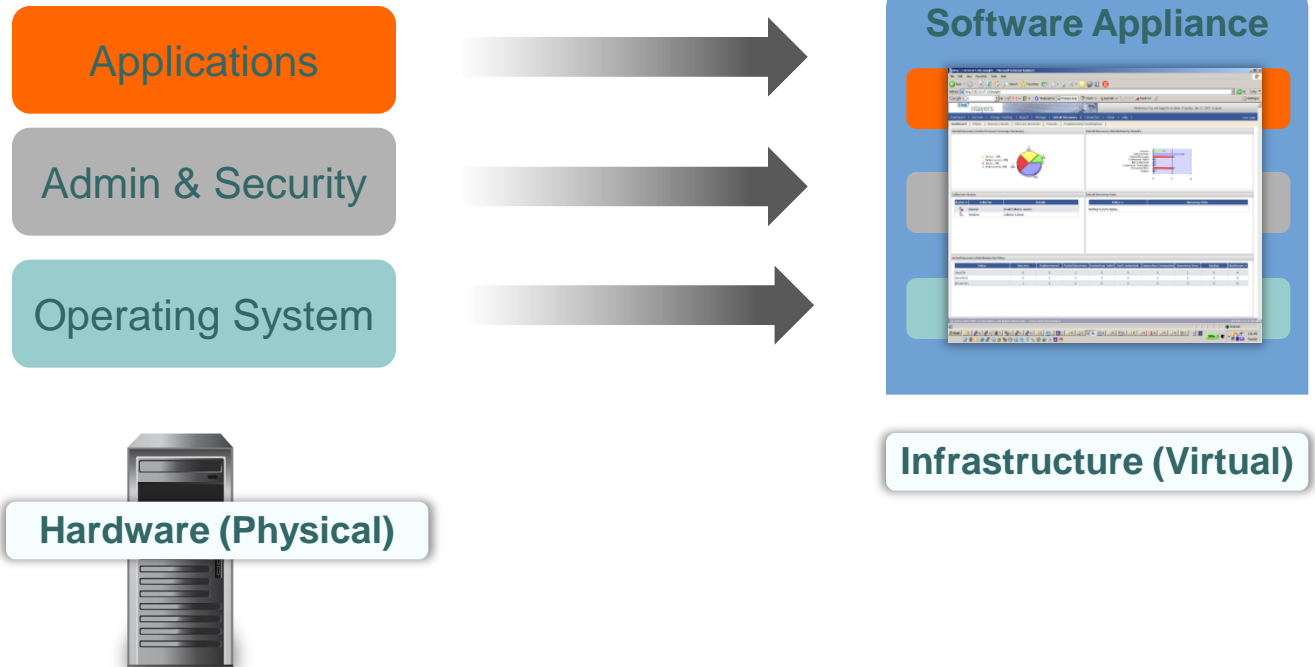
### SaaS



- Limited Control
- No hardware/software ownership
- Pay-as-you-go
- Rapid TTV
- Limited flexibility



# Software as an Appliance – What is it?

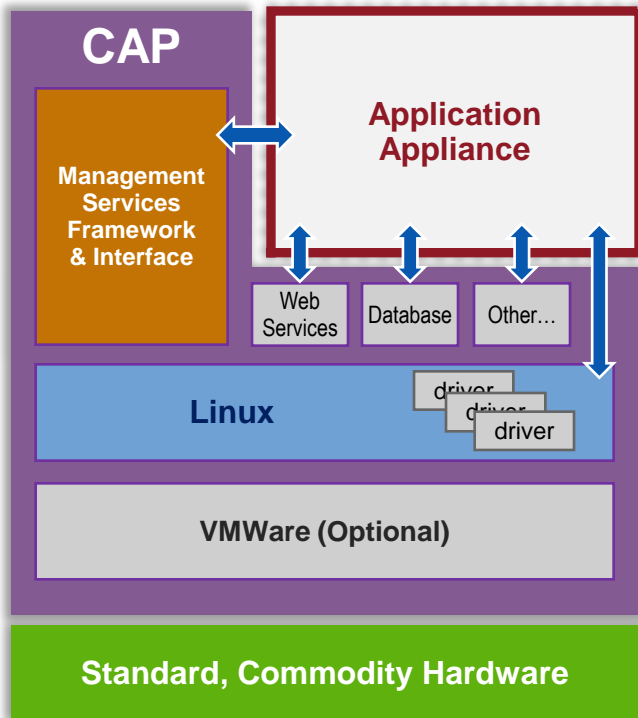


# Software as an Appliance – Why?

- Rapid Time-To-Value
  - Instantaneous business value
- Eliminate complexity
  - Ultimate Quality
  - Inherent reliability
- Single point for delivery and service
  - One ‘throat-to-choke’
- Optimized
  - Streamline to deliver maximum utilization and performance
- ISVs leverage standardized, repeatable, cloud computing-friendly Appliance Lifecycle Management platform



# EMC Common Appliance Platform (CAP)



- Platform to minimize variations in common technologies
  - Standardize on Linux OS (rPath Linux today, SuSE in future)
  - Converge on use of common software components
- Common capabilities for consistent user experience
  - Common way to install & deploy the appliance
  - Common platform management web UI
- Tools & technology for building appliances
  - Easy, repeatable
  - Same recipe to produce ISO or virtual image
  - Minimize size of the appliance image
- Remote management capabilities & framework
  - Remote update & entitlement
  - Active & passive platform monitoring/mgmt







# Clouds + Virtual Appliances

Enterprise



Virtual Appliances

Cloud

SaaS

Applications

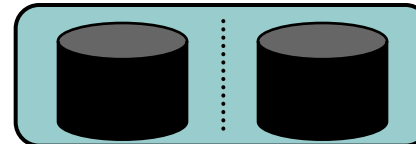
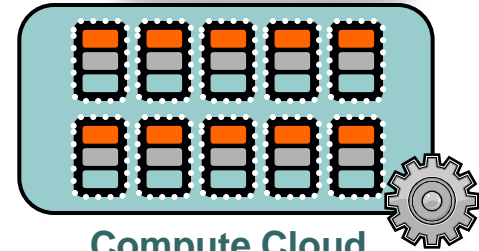
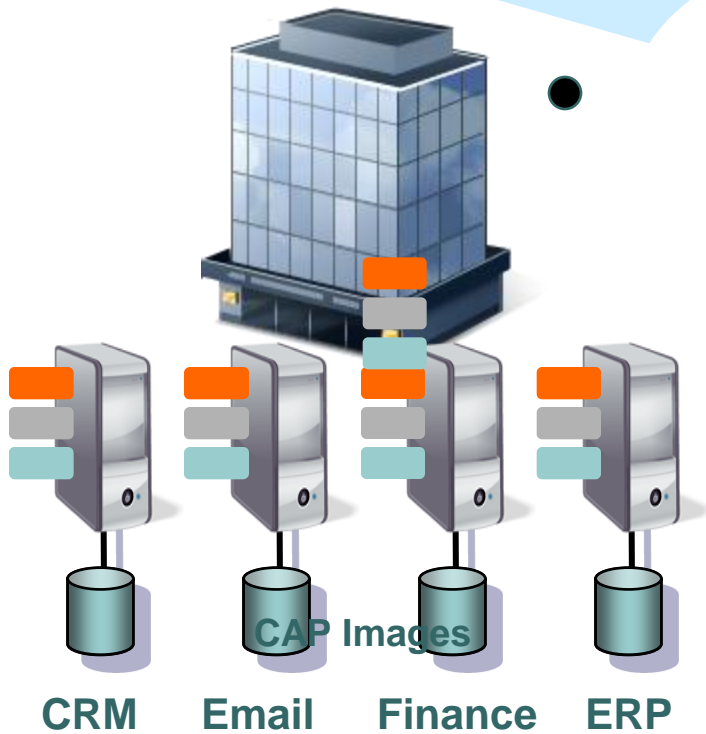
- Complete Storage/Application flexibility
- Dynamic IT Environment
- Composite Application (Web Service) focus
- Cost Optimized



# Tomorrow's IT Environment Flexible Computing with Virtual SW Appliances

Enterprise

Cloud



EMC Maui Cloud Storage



myappliances.com

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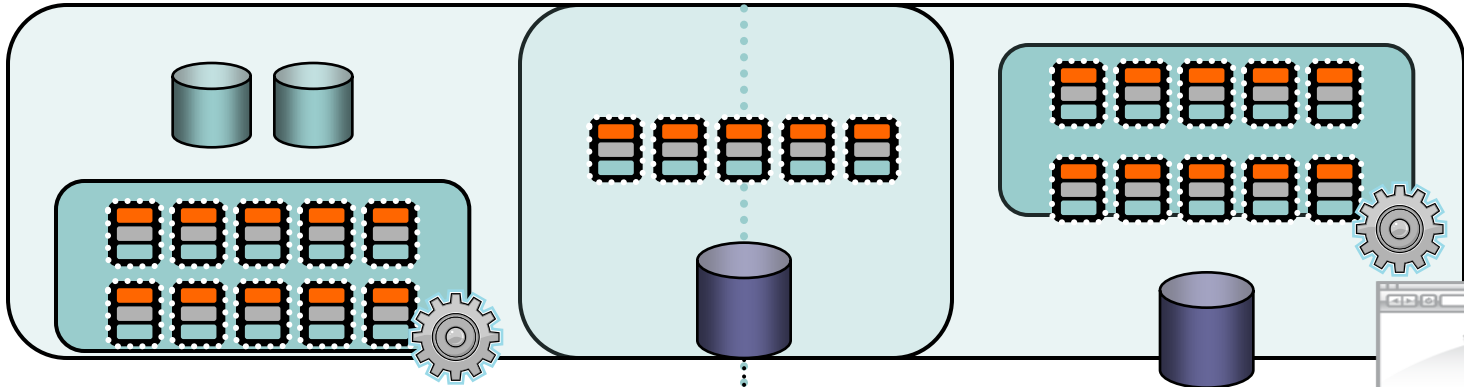
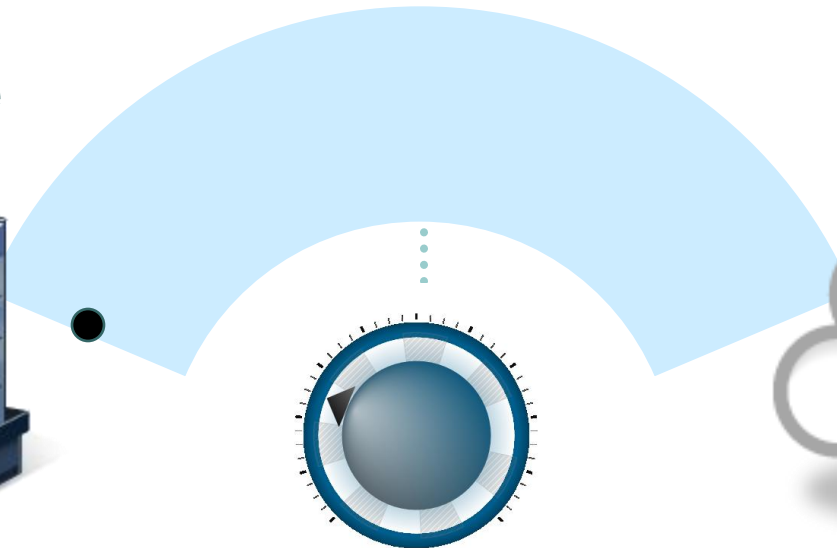


Best of Both Worlds

Enterprise



Cloud



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## Summary

- IT dynamics continue to evolve
  - Cheaper HW, Storage and bandwidth
  - Higher integration costs
- Key technologies will take us to the next wave
  - SaaS
  - Virtual Appliances
  - Cloud Infrastructures
- Enterprises need more flexibility at lower cost points
  - SaaS+
  - Flexible Computing and Storage Environments







# EMC<sup>2</sup>

where information lives

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