

*"Never tell people how to do things.  
Tell them what to do and they will surprise you  
with their ingenuity."*

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-- George S. Patton(1885-1945), American military leader



VIKAS GUPTA

CLOUD EVANGELIST

*Speaks on*  
**Cloud Architectures**  
*for Alpha dogs*



Cloud Developer's Camp, Pune, Nov 26 2011









# Agenda

- ...Alpha dogs
- Who's listening?
- Challenges of irregular load in applications
- Monolithic Applications deployed on cloud
- The Case for Elastic application architecture
- Basic technologies required for creating Elastic (cloud) applications
  - Platform Continuum
  - Role of accelerators (aPaaS, bPaaS)
- Some converging trends in cloud computing
  - Enhancing Mobility ( + Social Computing + Cloud)
    - Enhancing Mobile App capabilities and extending on multiple devices
      - Automotive IVI

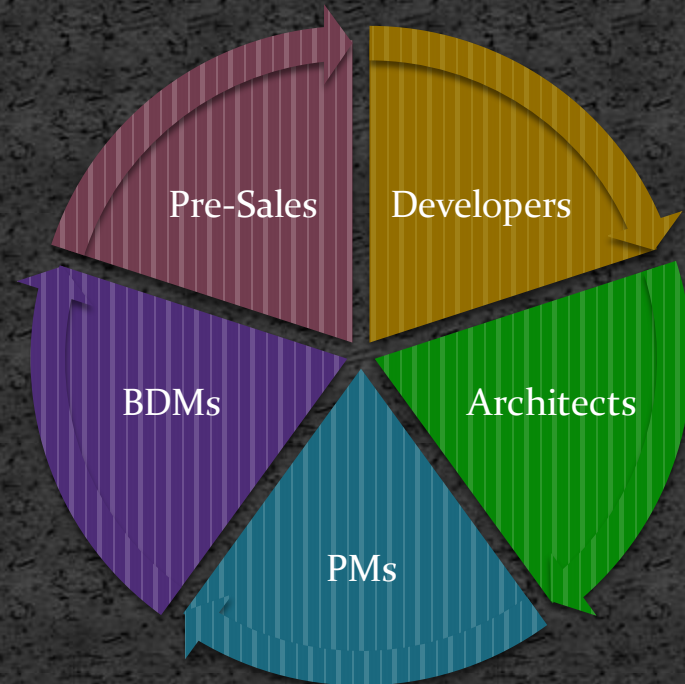


Who's listening?

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# Who's listening?

- How many
  - Architects / Developers / PMs ?
    - Cloud Architects?
  - BDMs / BA / Pre-Sales ?
  - Startups?
  - Product Org. / Services Org.?



...are you listening, btw?

**The Case**

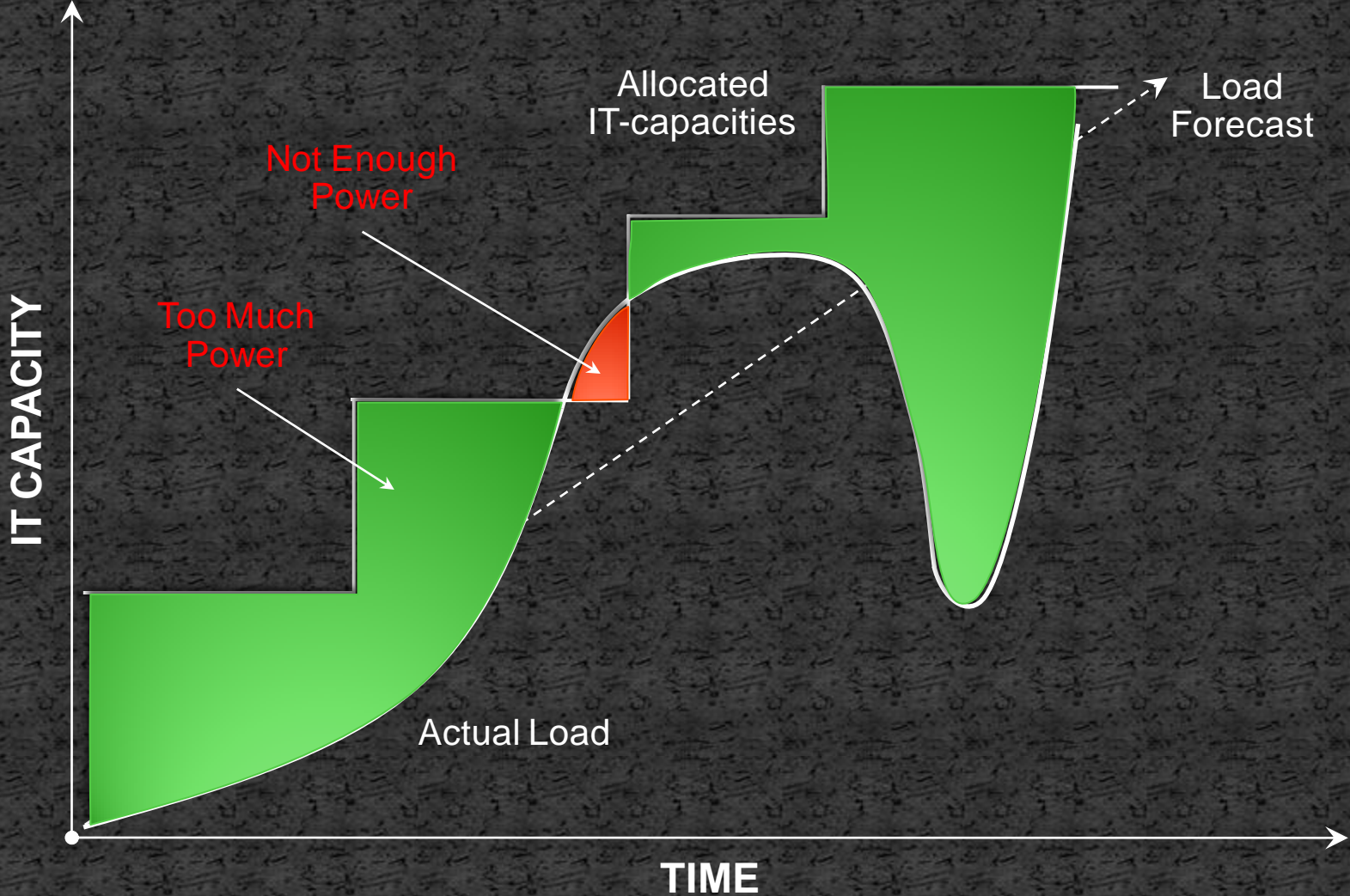
*for*  
Elastic  
Application  
Architecture

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Hardware Resources  
Software Resources



# Challenges of irregular load in applications



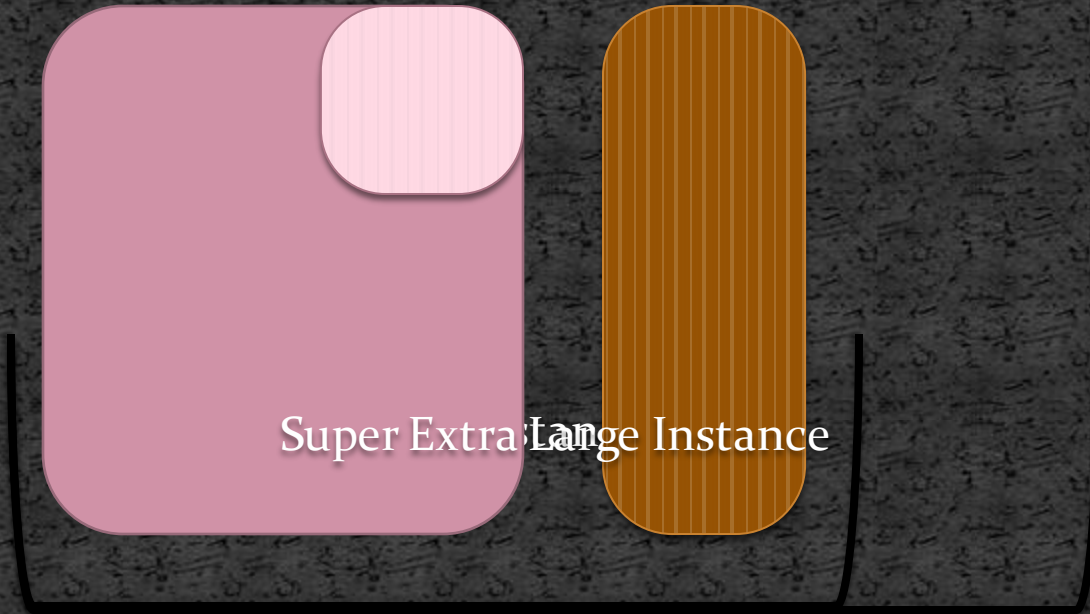
**The Case**

*for*  
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Hardware Resources  
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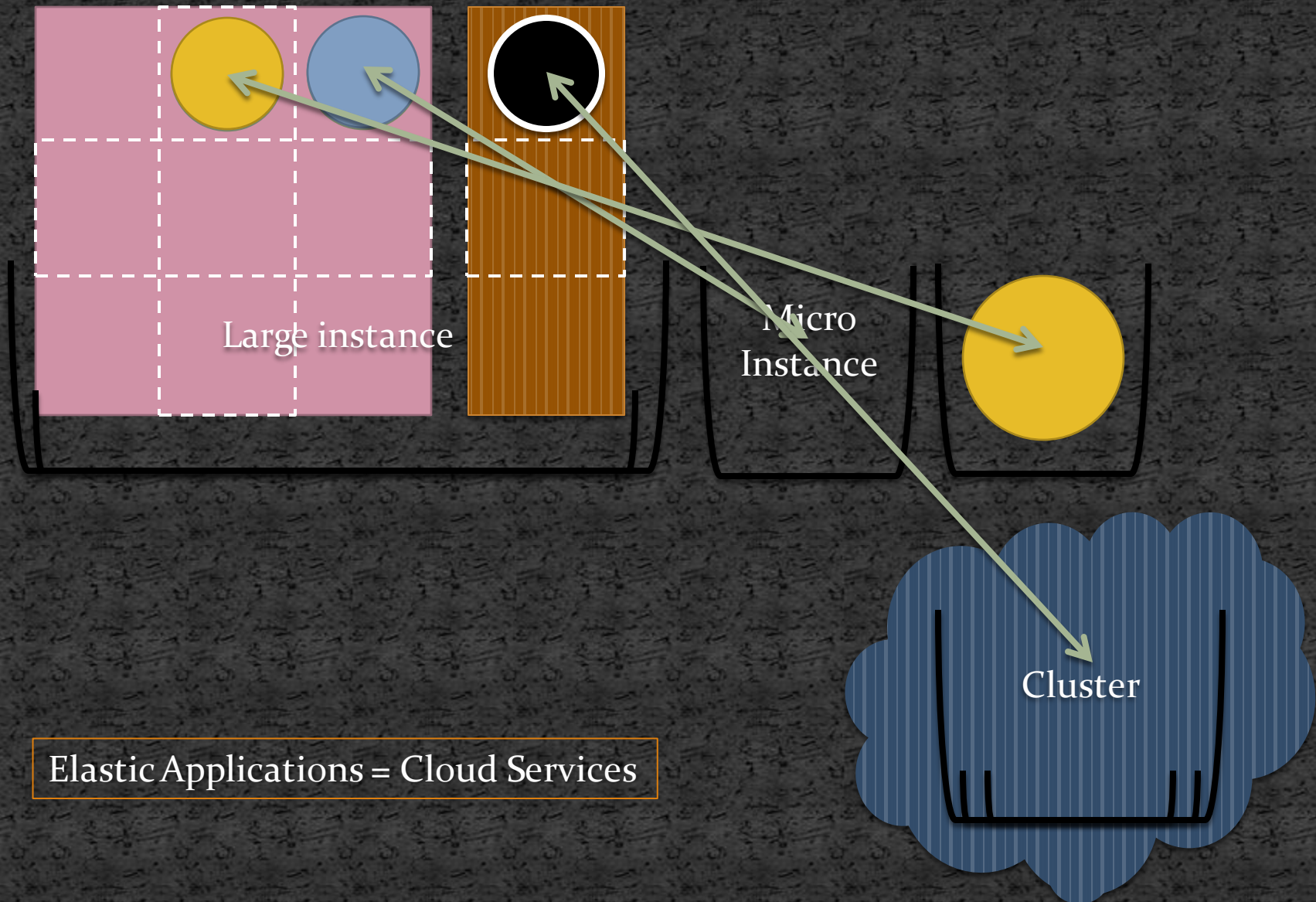
# Monolithic Applications deployed on cloud



Super Extra Large Instance



# Elastic Applications (EA) on clouds



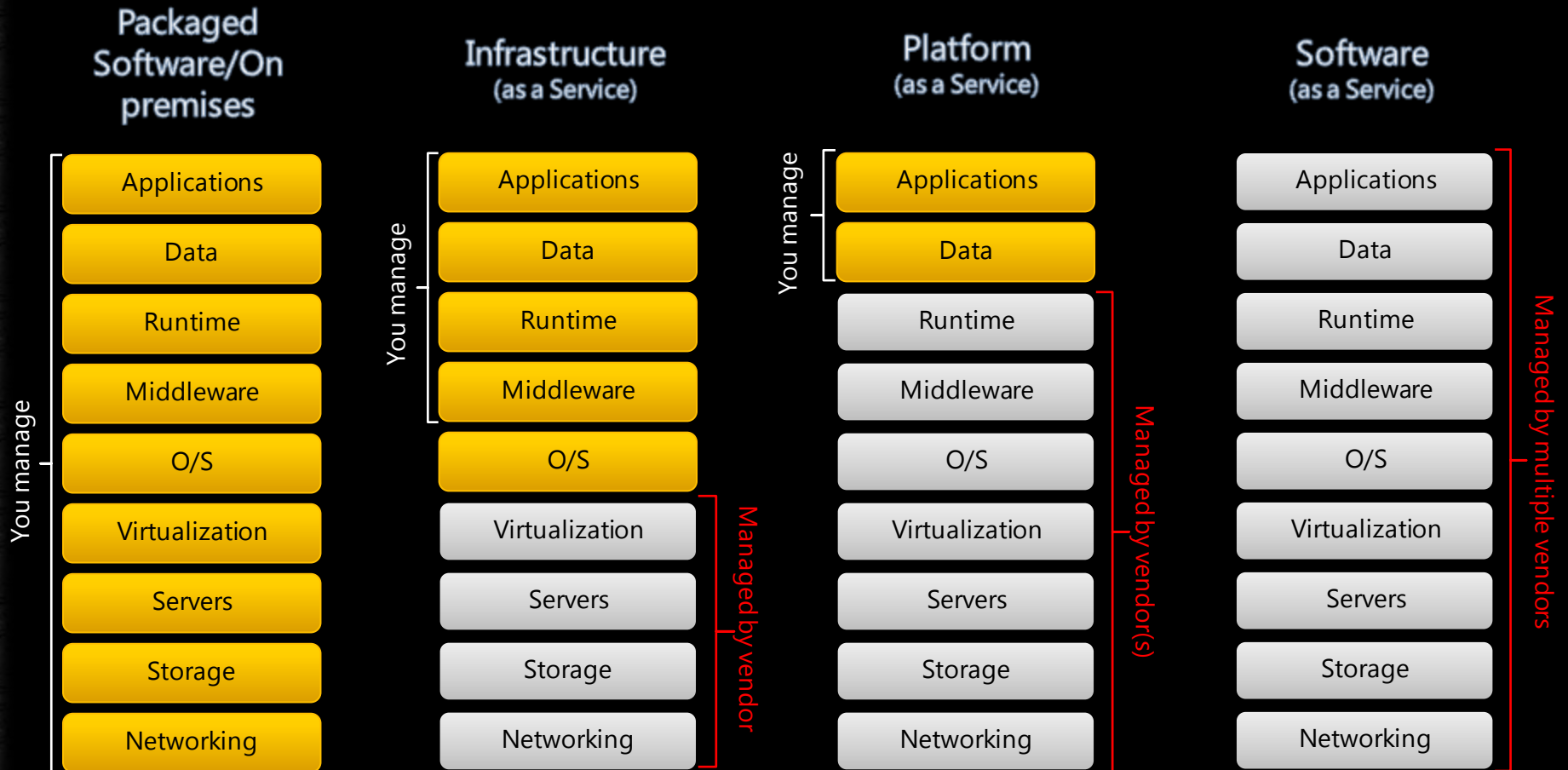
# Basic Cloud Technologies

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*"Some of the world's greatest feats were accomplished by people not smart enough to know they were impossible."*

- Unknown (must be an architect!)

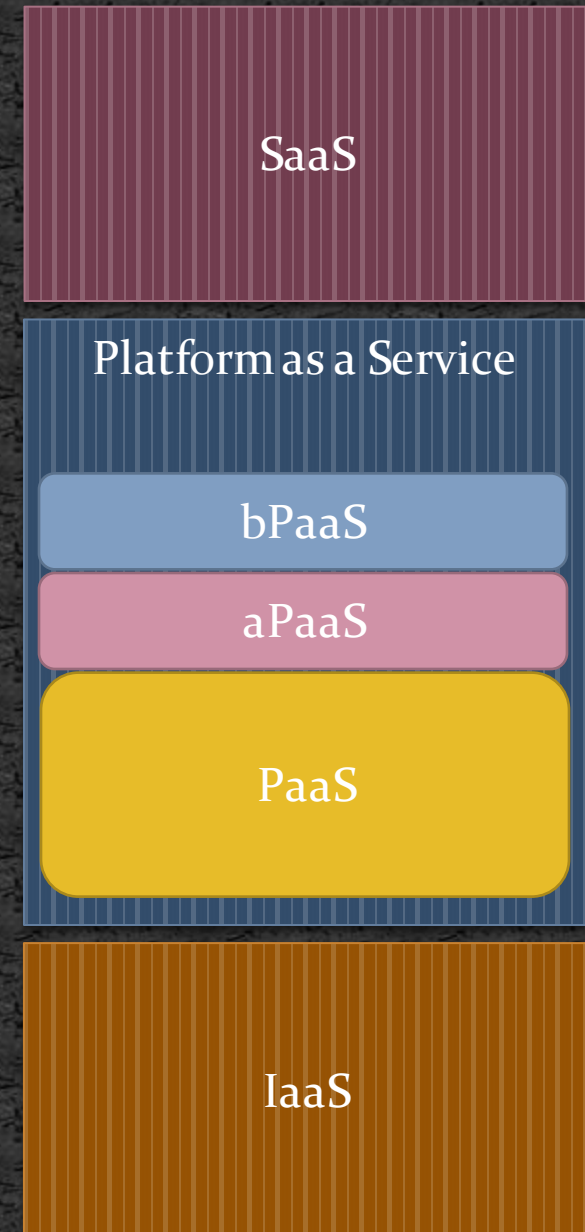
# Platform Continuum





# Specializations in PaaS

- Basic Platform as a Service
  - Function: Automating the provisioning and de-provisioning of the underlying infrastructure
- Application Platform as a Service (aPaaS)
  - The SaaS Enablement Layer
  - Functions: Metering, Billing, IAM, Integration, Store Front, Tennant Portals, Integration, etc
- Business Platform as a Service (bPaaS)
  - Domain specific platform
    - AutoIVI-Cloud-Mobile
    - Retail-Social-Mobile-Cloud
  - Network Effects



# Cloud Architecture Nucleus



# Cloud Architecture Nucleus

- **Resilience** through Chaos Monkey architectural concepts
- **Extremely Scalable** distributed application (services) through Services Orientation
- Reduced **Latency** through context sensitive (near, In-memory/ data grid) distributed “cacheing”
- Faster **Search** operations through Hadoop/MapReduce
- Improved **Data security, privacy and control** through on-premise Data Services architecture
- Cloud Services **Integration** through Application Services Fabric (ESB-on-Cloud architecture)
- Web Services **Erosion Resistance** through Heroku architecture
- Tenant-context based application-layer **load-routing** requirements
- Configuration based Code-Customization (**single code base**) considerations
- **SaaS enablement** components through aPaaS
- Non-DB/client server focused **architecture evolution using NOSQL** and distributed data grids and d-cacheing

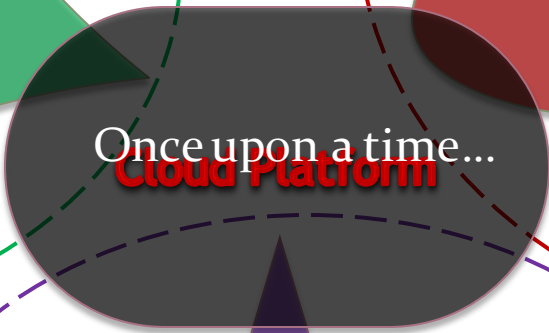
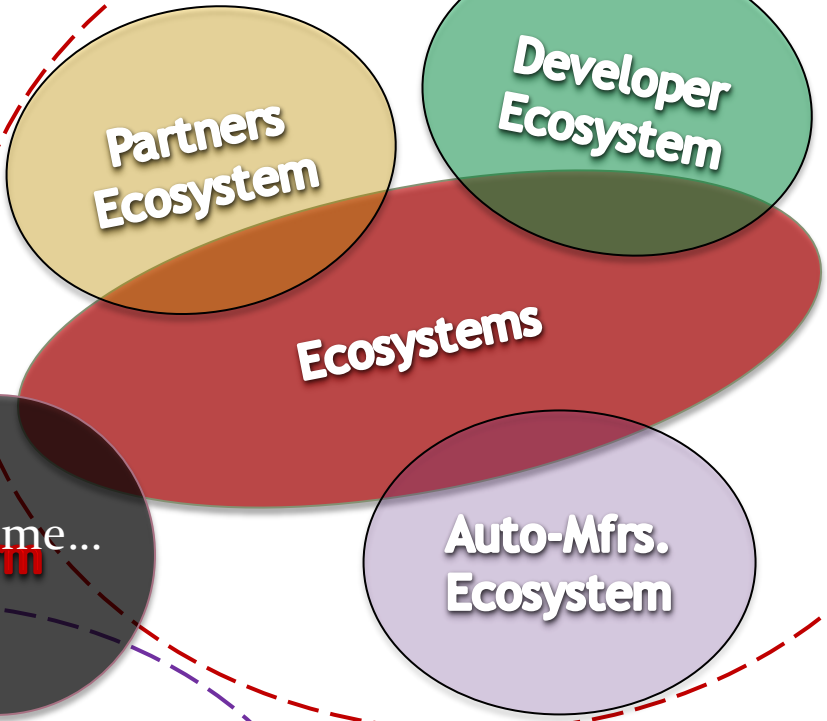


# Distributed Data Grid for Graph Apps



Automotive IVI-Cloud Convergence  
An Overview

# The Connectivity





# The Automotive-Cloud Factor





"We must open the doors of opportunity. But we must also equip our people to walk through those doors."

- Lyndon B. Johnson

## Questions?



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