

“Managing Cloud-based Service Delivery”

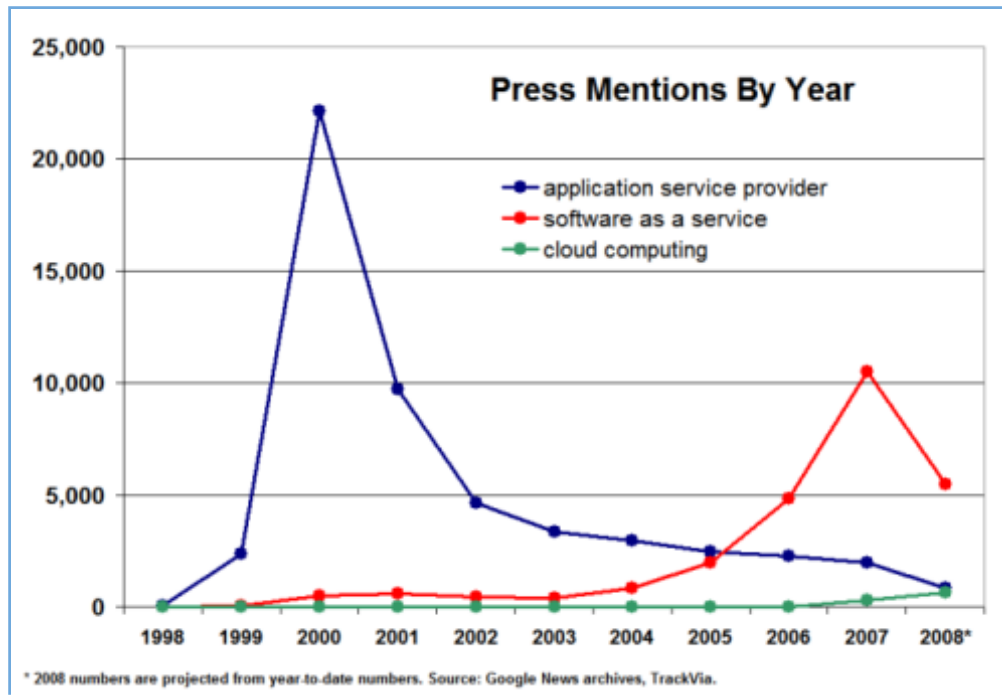
*Praveen Kumar
Packet Island Inc.*





At last, the fossil evidence to prove our theory! The dinosaurs died off – not because of a meteor or climate change – but because their cloud computing platform collapsed!

Buzz words come and go...



...But the
value proposition is bigger than ever!

Terminology

- Cloud/Cloud-based service
- Cloud computing
- Grid computing
- SAAS/PAAS/HAAS/MAAS...

Should you care?

Market Trends

Economy-driven
capex to opex
shift in IT

salesforce.com



SaaS/
Cloud-services

webex Microsoft Office Online



Rapid adoption
of VoIP and Video
for cost/env
reasons



Cloud-based
converged
media
services are
the future

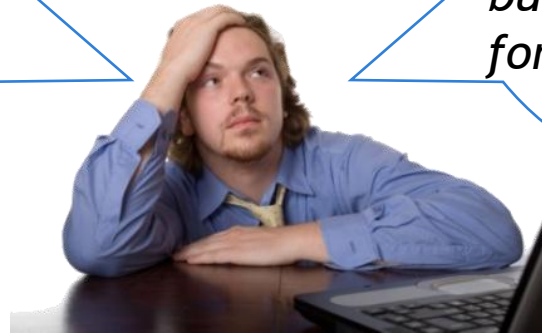
The most disruptive trend in the IT market over the next 5 years - Gartner
\$160B market by 2011 - Merrill Lynch
\$42B market by 2012 - IDC

The End User's Problem

“Our multi-vendor networks are very complex . . . and are getting more so every day!”

“I can tolerate slow email, web surfing and application access . . .

but I have zero tolerance for issues with converged media services!”



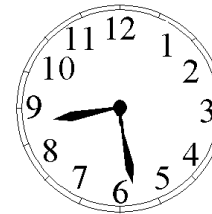
Branch Office/SMB Employee



**Multi-vendor
finger pointing**



**Service
calls**



**Wasted
time**

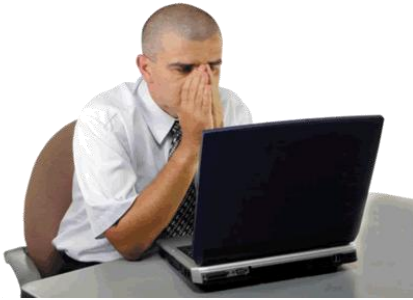


**Expensive
to fix**

The MSP's Problem

Cloud-based converged media services are strategic to my future business...

But how do I deliver "carrier-grade" service quality all the way into the customer LAN when I don't control the end-to-end network?



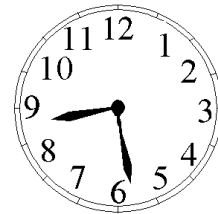
CHALLENGES



**Multi-vendor
finger
pointing**



**Service
calls**



**Wasted
time**



**Expensive
to fix**

Service Delivery Architecture For Cloud-Based Services

SMB/Enterprise

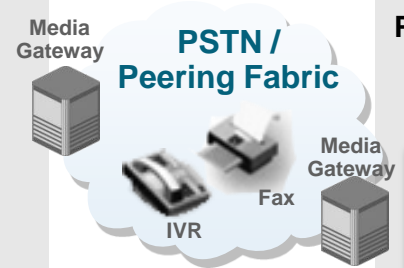
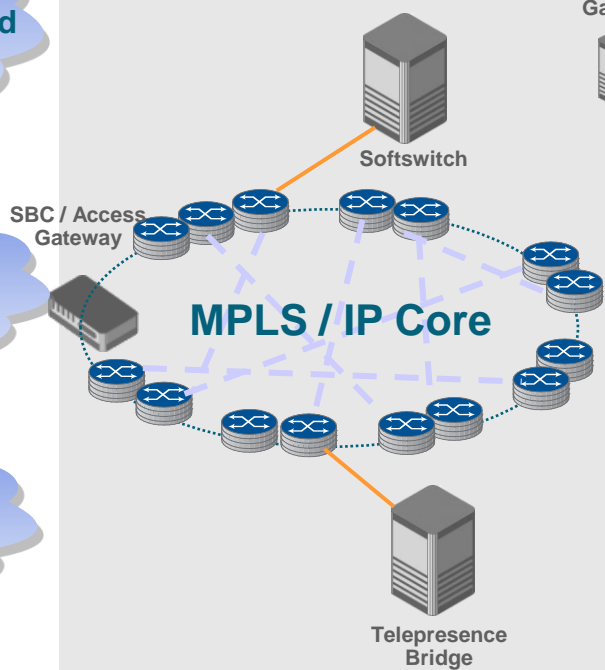
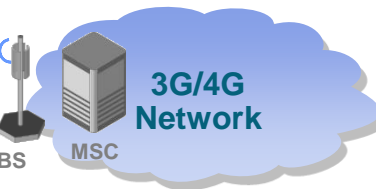
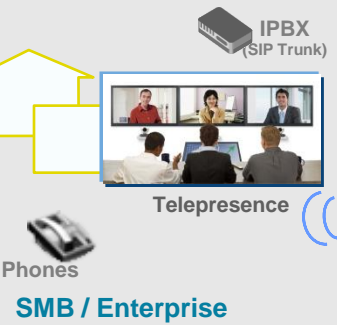
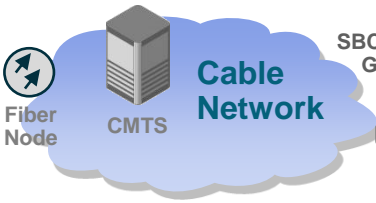
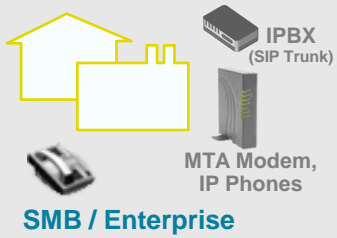
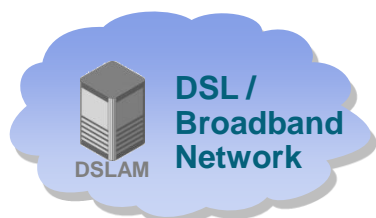
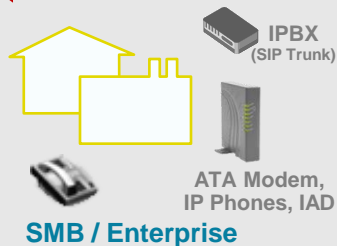
Access Network

IP Core Networks

Off-Net & Peering

Cloud Services

LAN and last-mile issues pose big problems for cloud-based services

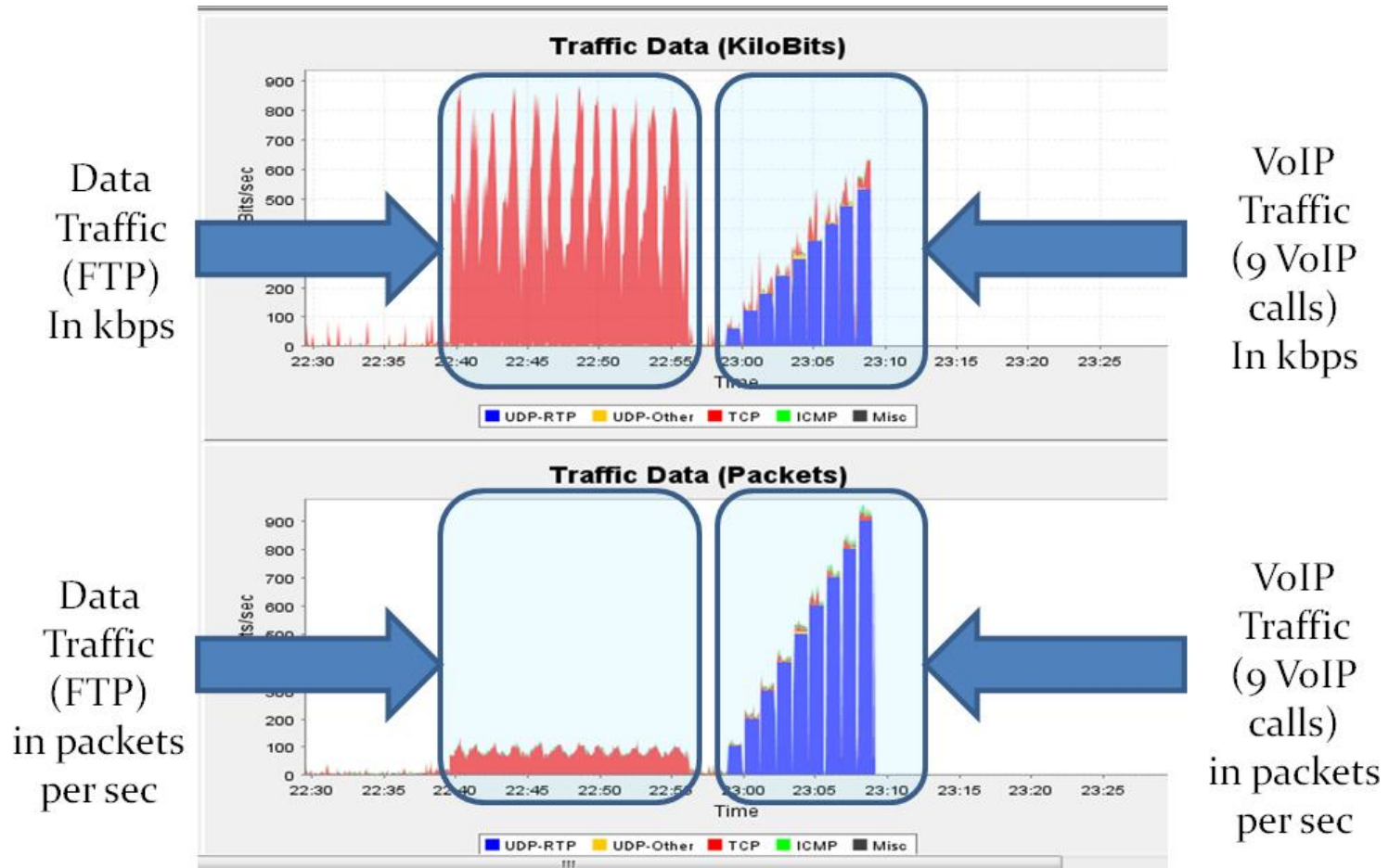


Partner-branded Or Private-labeled services

- Data
 - salesforce.com
 - Google
- Video
 - Office Online
 - Halo
 - POLYCOM
- VoIP
 - webex
 - GoToMeeting

QoE/SLA Is The Biggest Hurdle For Market Growth

Isn't cheap bandwidth the solution?



It's all about the packet handling capacity...

Two Approaches To Ensure QoE

Approach #1

Upgrade and Control the End-to-End Network

- Large capex due to expensive re-wiring and upgrades
- Not a viable option in this economy

Approach #2

Manage the Service Lifecycle:

Assess, Verify, Monitor, Diagnose & Optimize

- Minimal capex, but requires the right tools and processes to implement cost-effectively on a massive scale using traditional service techs

Lifecycle Management For Converged Media Services

Assess



- Assess LAN and WAN for readiness before deployment
- Design and test QoS architecture

Verify



- Verify & certify the deployment of all components
- Establish a “gold standard” baseline

Monitor



- Monitor relevant network flows to determine QoE
- Identify & isolate complex transient issues
- Continually test against the baseline

Diagnose



- Leverage central experts to remotely diagnose complex problems
- Mine and correlate data to determine corrective actions

An End-To-End Process Is Required To Ensure “Carrier-Grade” Service

Opportunities For Entrepreneurs

- Every IT application can be SAAS-ified
...but build it with the right financial model
- Infrastructure: Networking, Servers, Storage,...
- CPE devices/end-to-end networks/protocols that self-heal/self-correct
- Operational support systems:
 - Provisioning
 - Support
 - Backup
 - Customer management
 - Etc.



Thank You

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