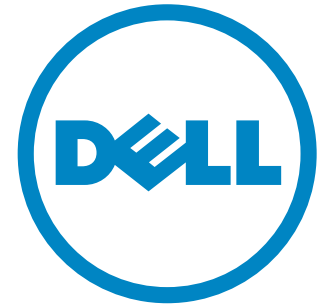


Next Generation Computing



A fundamental shift in the delivery and consumption of information technology which will transform IT organizations.

Introducing Dynamic Market Solutions

The New Services



\$5.7 Billion FY09 Services
18,000 Services Employees

- ProConsult
- ProManage
- ProSupport

LEVERAGE FULL CAPABILITIES

perotsystems®

\$2.8 Billion FY08 Services
2,000 Customers
23,000 Employees








- Applications
- Business Process
- Consulting
- Infrastructure

41,000 Employees Strong
End-to-End Services Portfolio
#1 in Healthcare
Top 10 Service Provider
Over 3 Million Desktops Managed
Over 100,000 Servers Managed
Presence in over 180 Countries
60 Expert Tech Support Centers
7 Global Command Centers






The Integrated Services Portfolio

From product support to business solutions, we can help you achieve your business outcomes.

Support Services	Managed Services	Cloud/ As-a-Service	Applications Services	Business Process Services	IT Consulting	Business Consulting
						
Extended warranty	End user	Client Software	Custom development	Payer Services	Enterprise architecture	Strategy consulting
Enhanced support	Data center	Enterprise management software	Modernization	Revenue Cycle Outsourcing (RCO)	Service management	Organizational change management
	Network	Business continuity software	Business intelligence	Policy administration	Data center infrastructure	Process re-engineering
	Information assurance	Desktop	Enterprise and industry applications	Physician services	Enterprise applications rationalization	Supply chain re-engineering
	Hosting	Servers and storage	Testing	Engineering services outsourcing	End user computing	Clinical transformation
			Management	Customer management	Virtualization/cloud integration	
				Government office	Data management	
					Business continuity disaster recovery	

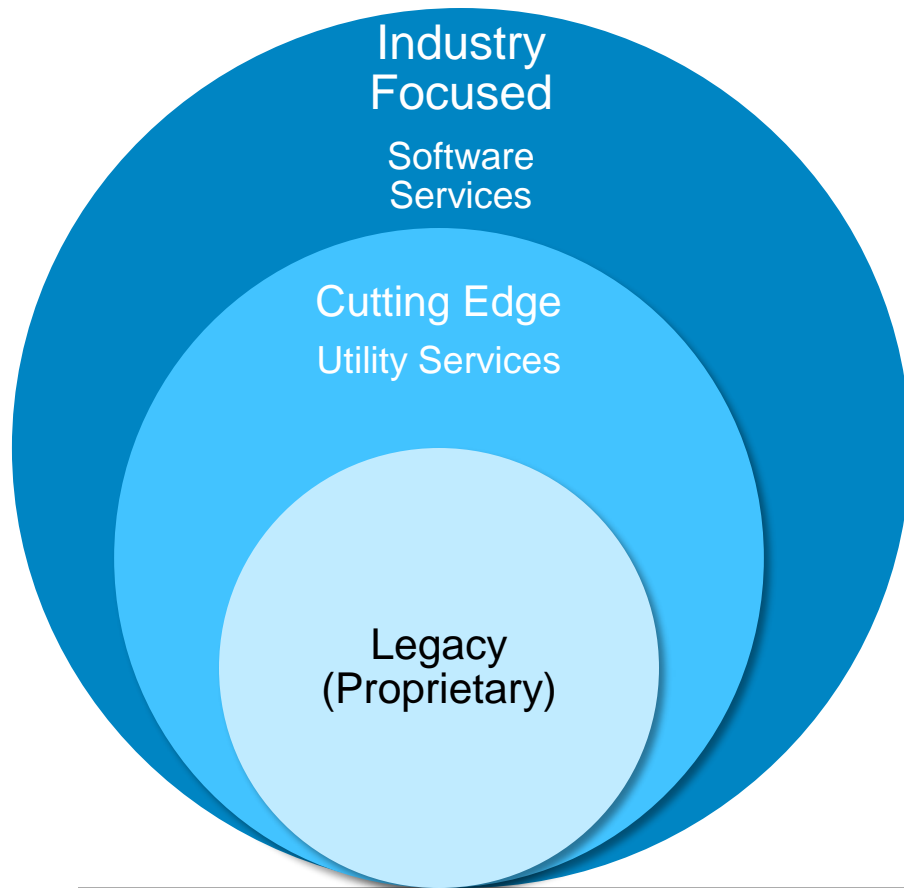
Next Generation Computing

What is really driving the change?

Macro Economic Trend	Economic Drivers	Enabling / Facilitating Technologies
Work Mobility 	<ul style="list-style-type: none"> •Socio economic changes in workforce •Globalization •Demographics 	<ul style="list-style-type: none"> •Utility technologies (see below) •“Social technologies” •Ubiquitous bandwidth
“Hollywood” Business Operational Models – operational manifestation of work mobility 	<ul style="list-style-type: none"> •Linear correlation of costs to revenues / cost save •Increased specialization •Work Mobility (see above) •Jurisdictional legal / regulatory compliance complexity 	<ul style="list-style-type: none"> •Utility technologies (see below) •Mature Web and Mobile dev tools and standards. •Cross organizational BPEL/BPMN •Ubiquitous bandwidth
Utility Computing – technology specific manifestation of “Hollywood” business model. 	<ul style="list-style-type: none"> •Hollywood model drivers (see above) •Ubiquitous IT (Carr) •GRSC complexity •“Red Queen” – accelerating rate of tech and business change (flexibility / adaptability) •Reduced IT ROI potential 	<ul style="list-style-type: none"> •Virtualization •Cloud technologies •Fabric embedded Digital Rights Management •Web 2/3; SOA AppDev tools (PaaS) •BPO 2.0 (Aberdeen) •Unified Communications (HW/SW/Comm)

Next Generation Computing – Transformation Underway

A fundamental shift is happening in the delivery and consumption of information technology which will transform IT over the next 10-15 years.



- Advancements in technology are enabling the move from proprietary to a utility based (on-demand, scalable, metered, natural billing unit, no up front costs, cost effective, energy efficient) model.
- This is allowing businesses to change the way they buy and use information technology – asset light with the “browser” becoming the window to inter and intra enterprise computing.
- While IT demand will continue to grow, spend on proprietary IT environments may shrink as enterprise capable pay per use services replace capital investments.

Economic Justification

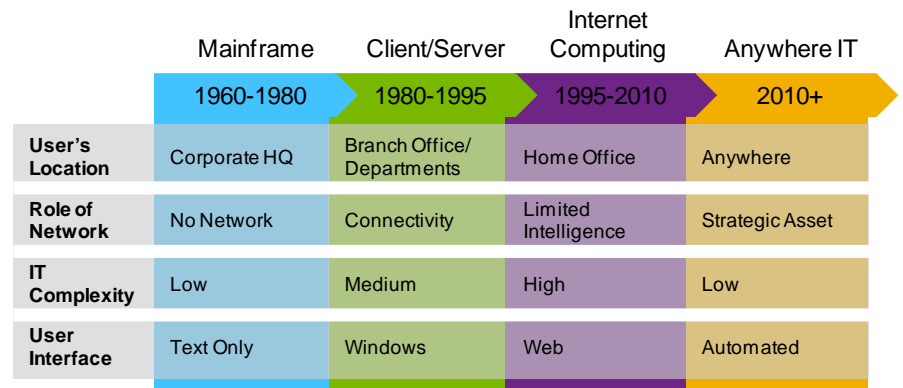
THE DRIVERS	DESCRIPTION	
The Macro Economic View	<ul style="list-style-type: none"> • IT low ROI - Paul Strassmann • As IT [activity] becomes ubiquitous it has no strategic value – Nicholas Carr • Creative Destruction - Joseph A. Schumpeter • Utility Computing - John McCarthy • Componentization - Herbert A. Simon • Red Queen Hypothesis - Leigh M. Van Valen (Co-evolution, Game Theory) William Barnett 	
Micro Economic Business Value	<ul style="list-style-type: none"> • Economies of scale. (volume) • Pay per use. (utility) • Speed to market. (componentization) • Focus on core. (outsourcing) • Greener (efficient supply and demand) • Meeting increasing regulatory requirements in all industries 	
The Innovation Paradox	<ul style="list-style-type: none"> • Survival today requires 'coherence, coordination and stability' [order]. - Survival tomorrow requires the replacement of these virtues [disorder]. - Salaman & Storey (The Open University) • Innovation => Commodity - Christensen 	
The Ascent of Business Architecture and Process	<ul style="list-style-type: none"> • Recent OMG study on benefits achieved by BA and BPR projects: <ul style="list-style-type: none"> – Increase agility, efficiency, effectiveness – 85% – Improved IT requirements – 62% – Streamline inter-business unit processes – 82% – Align terminology / semantics – 42% – Streamline external relationships – 29% 	
Regulation and Compliance	<ul style="list-style-type: none"> • Increasing regulation of more industries across the globe • Varying regulation of industries across the globe • Merging of IT standards and business regulations (ISO; NIST; electronic reporting, etc.) 	
Internal IT Failure	Business wants: <ul style="list-style-type: none"> • A place to experiment • Fast integration • Looser IT restrictions • Responsiveness 	IT wants: <ul style="list-style-type: none"> • Plenty of notice • Predictability • Stability • Justification



What Technologies and Practices?

A broad selection of technologies and practices are called into play in developing Next Generation Computing environments among which are:

- Virtualization
 - Allowing one physical device appear and behave like many devices.
- Cloud
 - Allowing multiple virtual devices to appear and behave like one very large device (World Wide Computer).
- Web 2.0
 - Combining multiple applications so they appear and behave like one application.
- ISO27000
 - best practices on information security management for the preservation of confidentiality, integrity and availability of information assets.
- ISO 20000
 - an integrated process approach and best practices for service management services to customer requirements.
- BPO 2.0
 - Piecemeal outsourcing evolving to integrated services along value chains with increased domain expertise.
- Unified Communications
 - Integrating real-time communication like instant messaging, presence information, IP telephony, video conferencing, call control and speech control with non real-time communication services messaging like voicemail, e-mail, SMS and fax.



How the “Cloud” Market Is Evolving

This is what Google, Amazon, Salesforce and Microsoft look like today (and are buying approximately 20% of all servers sold).

Monolithic model (Early)

Early cloud computing services are based on proprietary/internal architectures – islands of cloud services delivered by megaproviders.

So far, Force.com leads in this approach, Azure pushing.

Vertical Supply Chains (2+ Years)

Over time, some cloud providers will leverage cloud services from other providers (for example, ISVs moving into SaaS on top of Microsoft’s Azure Services Platform, use of Force.com, use of Google App Engine). Still proprietary islands, but ecosystems starting to build.

Facilitating this and managing it is the foundation of our approach.

Horizontal Federation (4+ Years)

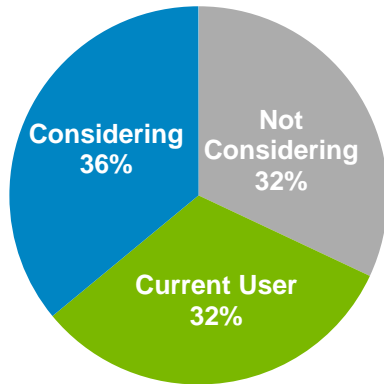
Smaller providers will federate horizontally to gain economies of scale (and efficient use of assets) – also, enterprises will leverage horizontal federation for peak capacity (overdraft protection, cloudbursting). There will be more choices at each layer of cloud computing, and standards will gain momentum.

Game Makers: Kindle; iPhone; Android; others – perpetually connected to the internet essentially built into the device

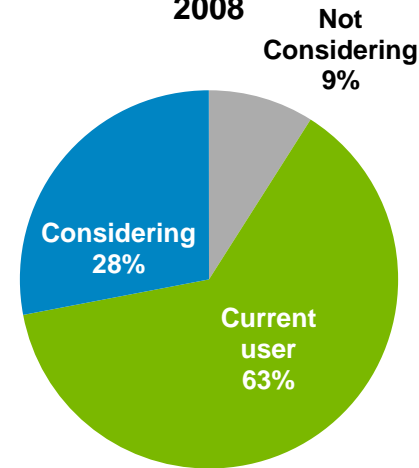
When will we see Next Generation Computing?

It is happening very fast. Your approach has to be “with all due speed.”

2007



2008



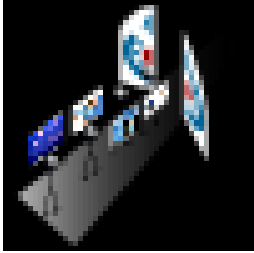
“What a Difference a Year Makes”
Think Strategies Nov. 13, 2008

	2009	2010	2012	2014	2016	2018	2020
Market	<ul style="list-style-type: none"> SMBs advised to SaaS LEs moving personal productivity Broad spectrum eCommerce IT management services 	<ul style="list-style-type: none"> 5 year projections: Cloud based BPO – 25.1% SaaS CAGR – 32% PaaS CAGR – 51% IaaS CAGR – 33.5% 	<ul style="list-style-type: none"> Pay as you go the norm Natural billing units Heavy SMB use Large enterprise ad hoc use 	<ul style="list-style-type: none"> 55% of all enterprises extensively on cloud 15-20% of all IT spend \$150B 	<ul style="list-style-type: none"> Stable standards across suppliers both vertical and horizontal 	<ul style="list-style-type: none"> New generation runs IT High comfort level with cloud 	<ul style="list-style-type: none"> “Cloud” services 50% of all IT spend \$450B Cloud enabled BPO \$385B

Summarizing the strategic decisions

- Most of what companies use (IT) for is indistinguishable – shared infrastructure business outcomes without shared infrastructure benefits
- Generally, IT better run centrally and shared than it has ever been maintained individually.
- Probably a 10-15 year transition in totality (ITO continues, perhaps accelerates as a utility prep strategy)
- Business (competition) dichotomy – need to reduce cost of IT while increasing IT capacity
- Economic (recession) dichotomy – find ways to be more efficient but batten down the hatches and don't experiment
- Endless possibilities we haven't discovered yet – NY Times example
 - Vacuum tube (stage of cloud technology and its application today)
 - Transistor
 - Chip
 - Systems on a chip

What is Coming



IT Consumerization



Work Mobility



BPO 2.0



Composite Applications



The Cloud
Utility Computing



Hollywood Business Model
Infrastructures

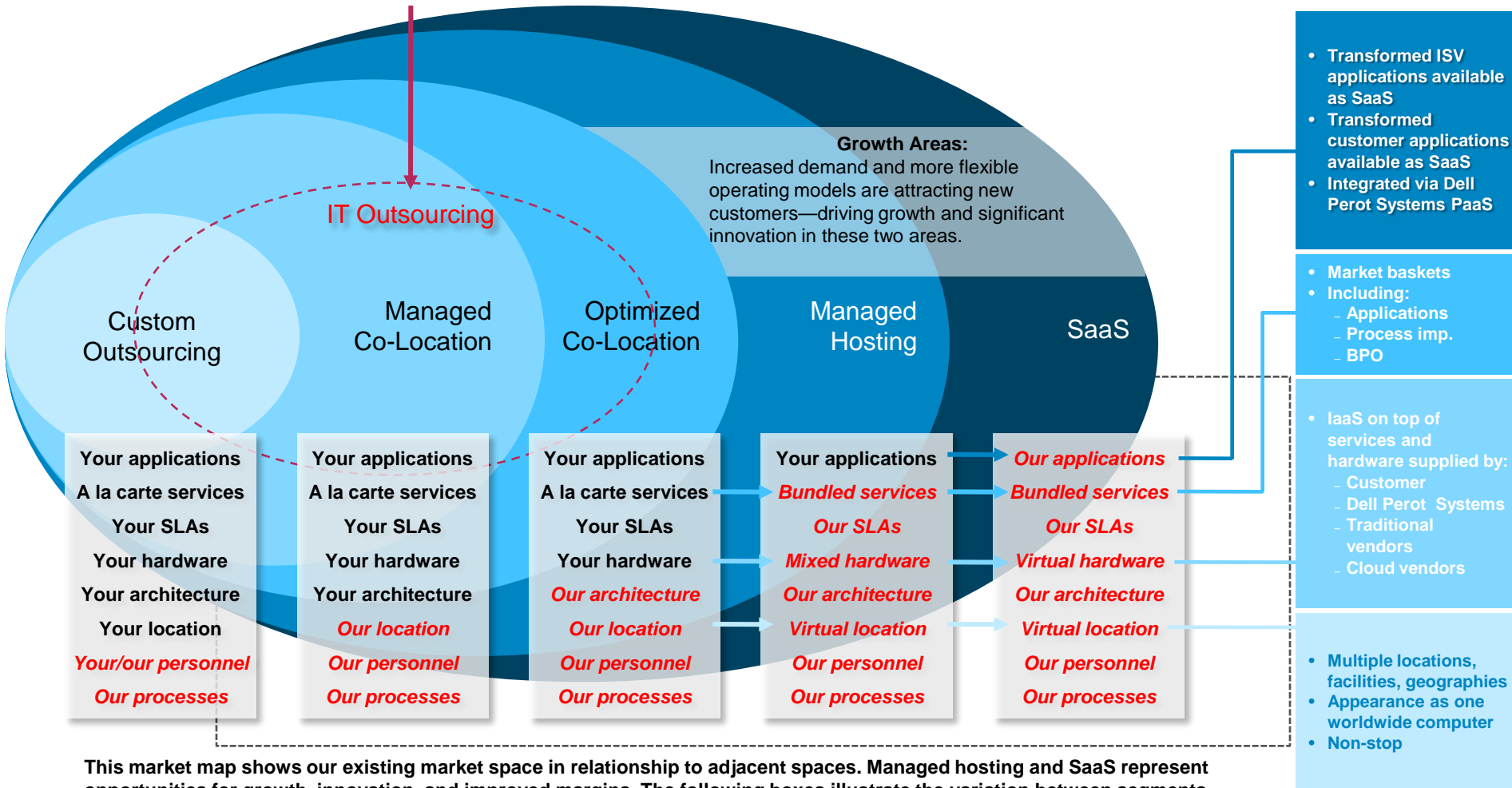
DRM models - Embedding Security into the Fabric

Cyber security: Opportunities will exist to help enterprises evaluate emerging point products both for their near-term protection capabilities and their long-term integration path into such platform. There are also opportunities to converge adjacent safeguards into effective and efficient platforms

- PAP - Policy Administration Point – A service which manages security and or compliance policies
- PDP - Policy Decision Point – A service which evaluates and issues authorization decisions
- PEP - Policy Enforcement Point – A service which intercepts user's access request to a resource and enforces PDP's decision. Secured applications (see below) may act as their own PEP.
- PIP - Policy Information Point – A service which can provide external information to a PDP, such as LDAP attribute information.
- Encryption – on-demand
- Identity service – Is used for initial access to cloud provided services
- Authentication service – Is the verification of the identity of a party which generated some data
- Confidentiality Service - Is the protection of information from disclosure to those not intended to receive it
- Location service – Identifies where data is stored, has been used, where users saw / used it, etc.)
- Validation service – Is to provide a third level of assurance before granting access to resources or information assets
- Authorization Service - Is the process by which one determines whether a principal is allowed to perform an operation
- Encryption Service - Encryption / decryption with audit will be made available

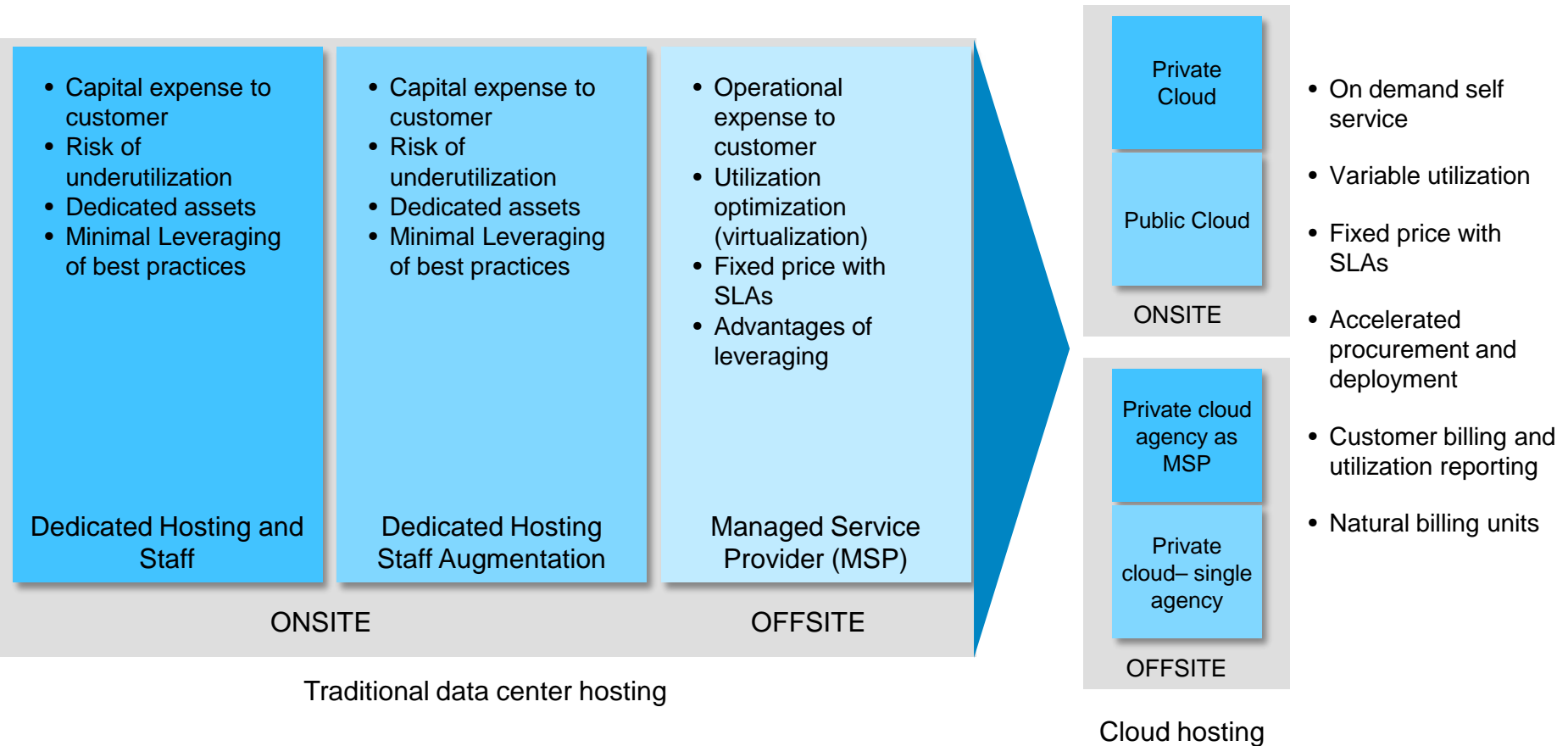
Our Evolution Incorporating Next Generation Computing

Dell Perot Systems Services Current Space



Hosting Transformation

Adapting commercial best practices to business critical and high security environment delivers enhanced work flow methodologies that reduce risk, improve performance, lower TCO, and drive objective business outcomes.



Meta Cloud Model of Dell Services

Benefits

Intelligent Data Management

Efficient and highly cost effective data management solutions

Advanced Applications and Workload Management

Drives workload productivity and proactively seeks out issues

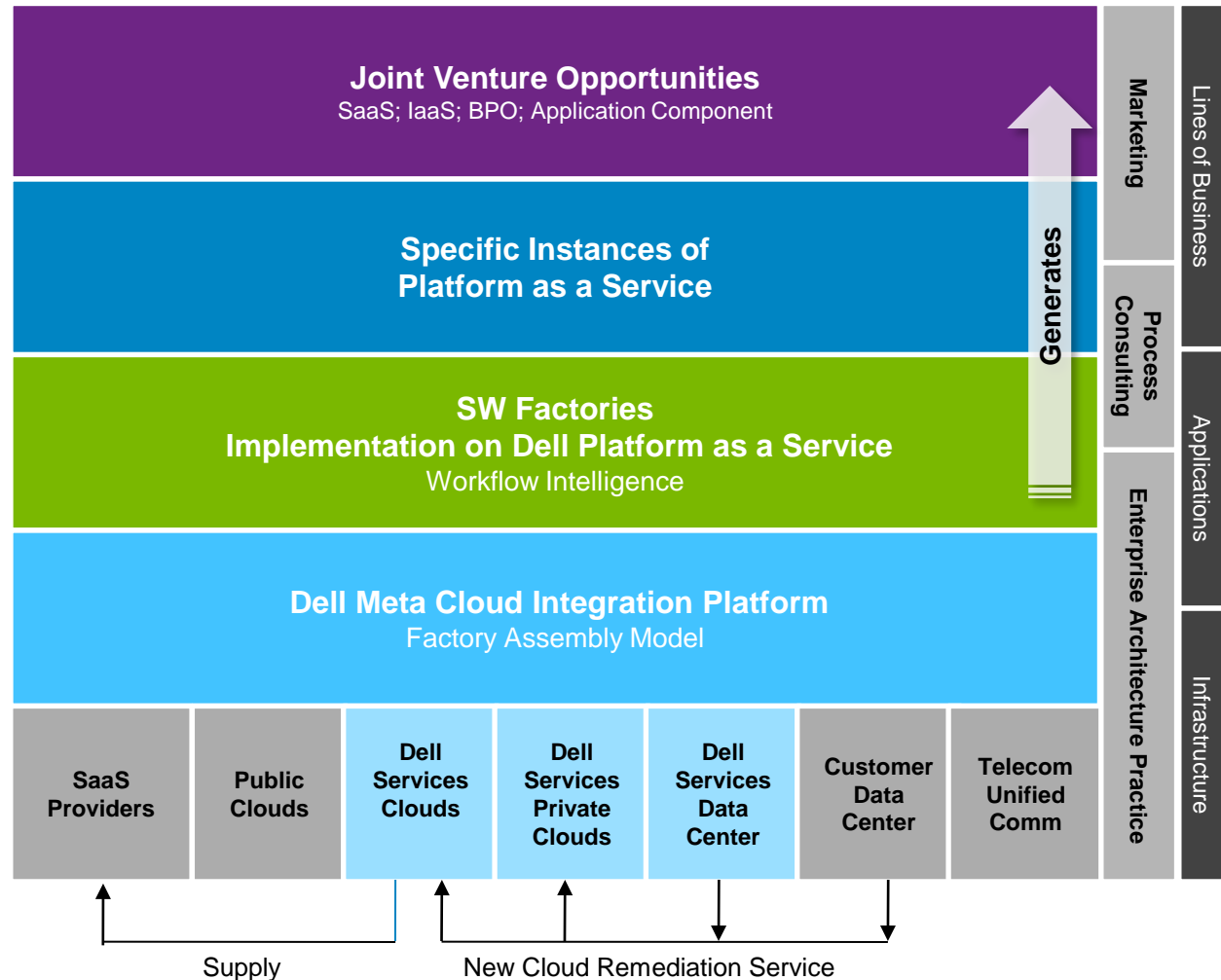
Advanced Infrastructure Management

Rapid provisioning of physical and virtual resources assures SLAs are achieved

Intelligent Infrastructure

Intelligent equipment delivers improved business process and lower TCO

Vast ecosystem of cloud/virtual and traditional data center services



Thank you.

