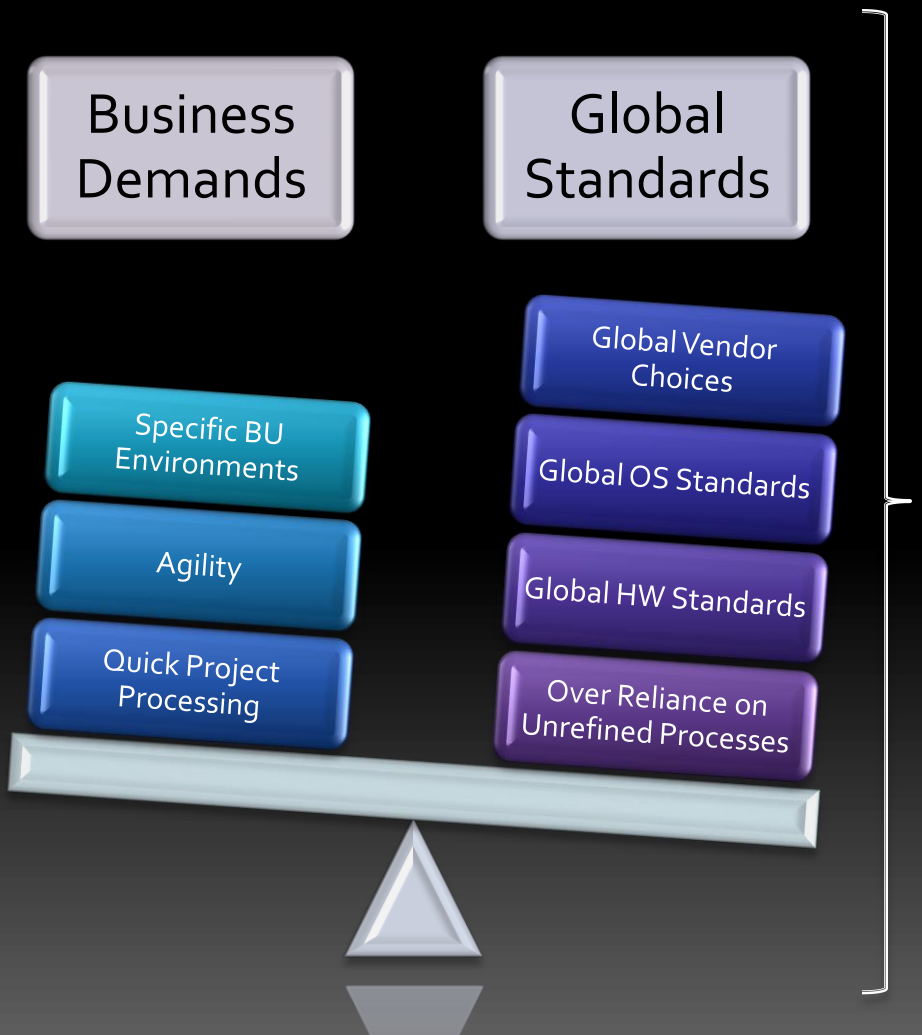
May 5th, 2007 – Boulder CO

ANALYSIS OF BUSINESS DEMAND VS. UNCHECKED STANDARDS AND PROCEDURAL RECOMMENDATIONS for XXb

XXa = Parent Company Business Unit a
XXb = Company XX Business Unit b
OPS = Global Support Team

Business Demands vs. Global Standards



- Not enough granularity on existing global standards
- Lack of requirement input from Business Units (BUs)
- Little room for agility
- Unknown assessment of effects of global standards across BUs

Recommended Methodology Applied to Vz Infrastructure

- Granularity Based on Environment
- Agility Request
- Specific Process Improvements
- Representation from XXc, XXa, XXb, OPS

- Standards and Processes set per Assessments of BU Requirements, Operational Needs and Financial Implications
- Representation from XXc, XXa, XXb, OPS

- Gather, Analyze Data from Operational, Financial, Event Driven Sources in Order to Represent Proposed Changes and Effects

- Drive Infrastructure Architecture based on Standards, Requirements and Reporting
- Representation from XXc, XXa, XXb, OPS

Example of Unchecked Standards

Arch Alt-Boot & HBA Requirement

- All SUN servers without ability to take on 6 internal disks must purchase an Ultra SCSI External Drive Solution
  - Reason: Possible Internal SCSI Rail Failure
  - Drive Space ~ 800 Raw GIGs of DASD (Operational)
- All orders require dual HBA configuration regardless of lack of SAN requirements
  - Reason: In case server has a requirement for SAN Later On

Effects

- Roughly 25% of the cost of the server for mid size systems 60% of the cost of server for smaller SUN systems
  - $7k/server for External SCSI
  - $3k/server for dual HBAs
- Additional 1u storage pizza box and dual power supplies
- Introduction of at least 2 other single points of failure
- Increase cost of server
  - Makes up 25% of mid size systems
  - Makes up 60% of small size systems

Example of Unchecked Standards

- In the previous example, the adherence to HBA/External SCSI solution would applied to an environment of 20k stand alone Sun servers would turn into the following:
  - 20,000u of required rack space for external SCSI solution
  - 476 Racks just for 1u storage needs
  - Current standard of ½ filled racks would mean 952 racks
  - 1.6 Petabytes of DASD
  - $200m dollars
- Questions to be asked now is:
  - What exactly are the reasons for the standards?
  - Does each BU environmental support the reason behind the standard?
  - If reasons can actually be quantified and qualified, are they more of a risk to the environment than the above cost?

Example of a Global Standard Analysis
(EOSL: end of serviceable life project)

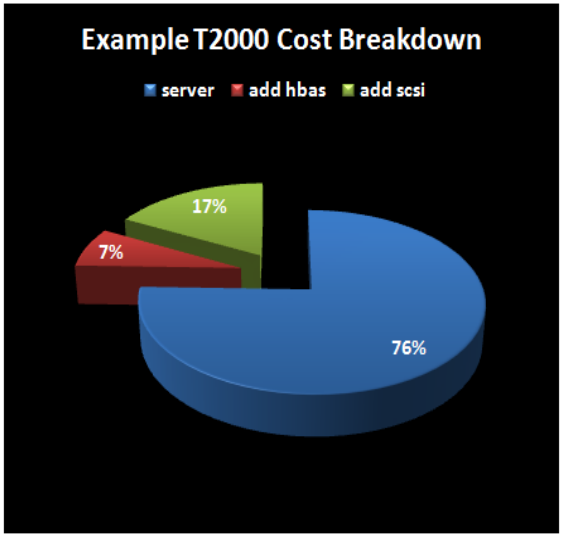
sample t2000	server	$32,000
	add hbas	$3,100
	add scsi	$7,300
sample v490	server	$29,000
	hba	$3,100
	add scsi	$7,300
sample v245	server	$8,000
	hba	$3,100
	add scsi	$7,300

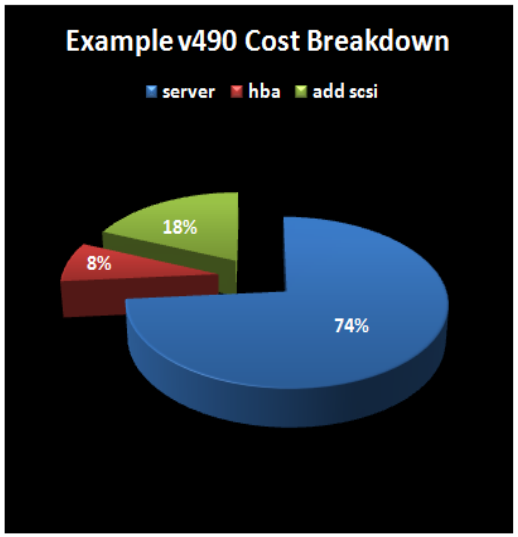
	Dev	Prod
# of Physical Systems for EOSL	86	88
add hbas	*$3,100*	*$3,100*
add scsi	*$7,300*	*$7,300*
Total Cost Associated with HBA	*$266,600*	*$272,800*
Total Cost Associated with SCSI	*$627,800*	*$642,400*
Total	$894,400	$915,200

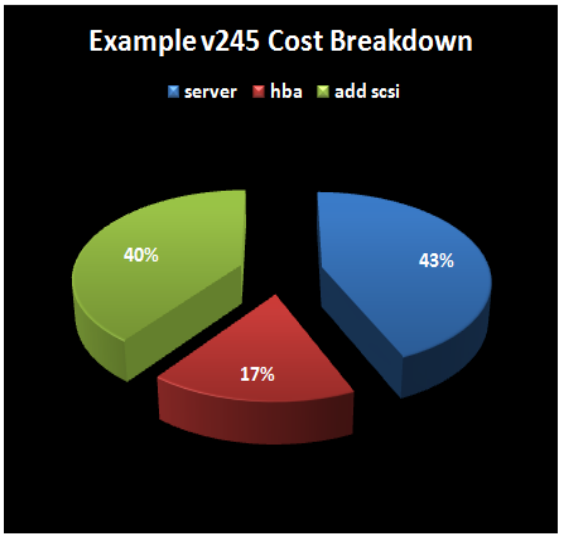
		# of v490s	# of Dell 2950
HBA cost * 60%	$323,640	11	40
External SCSI Solution	$1,270,200	44	159
	Total	55	199

Grand Total Spent On HBAs and External SCSI	$1,809,600

# of Systems that could be purchased with future cost avoidance associated with a 177 server purchase



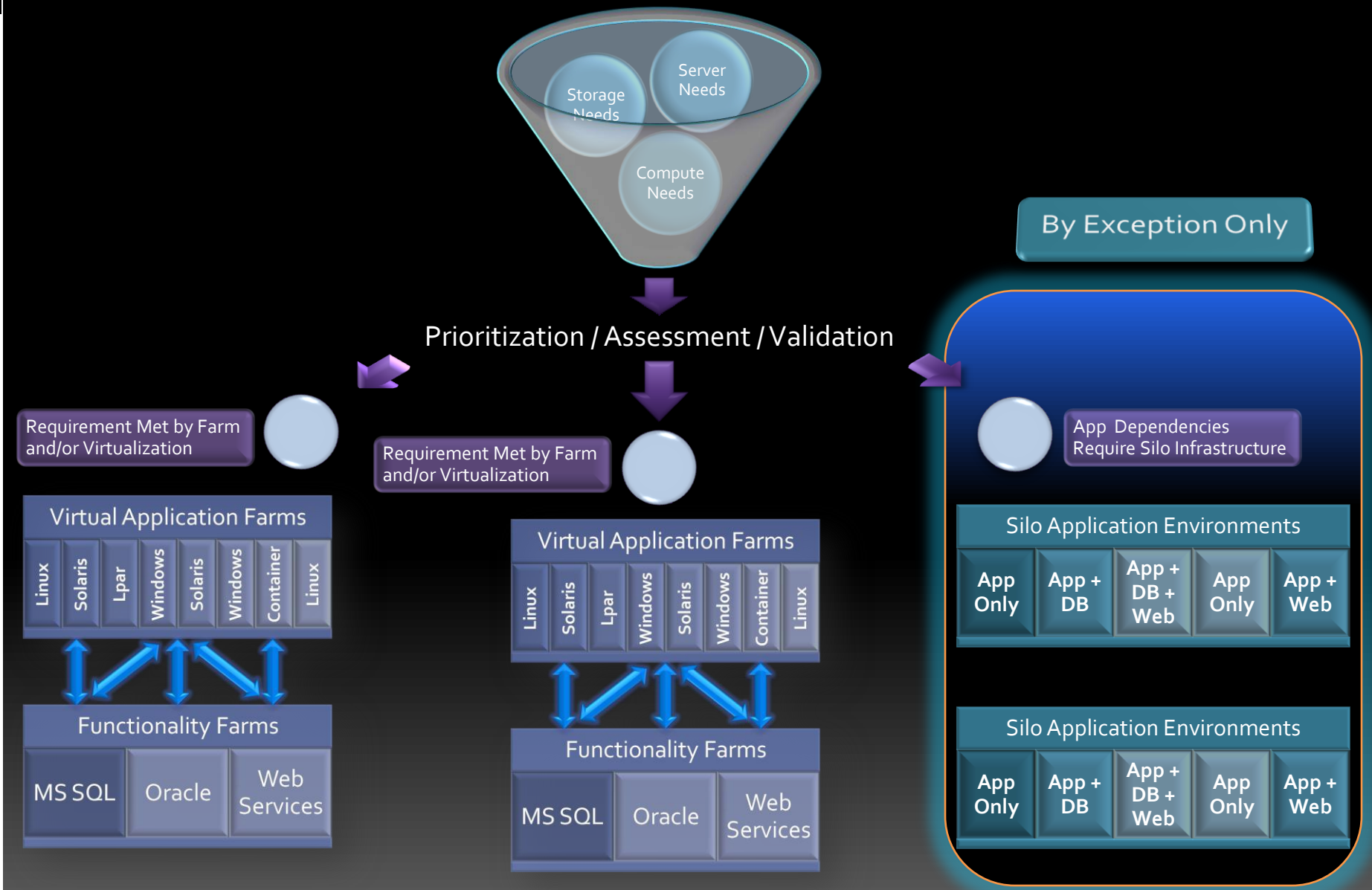




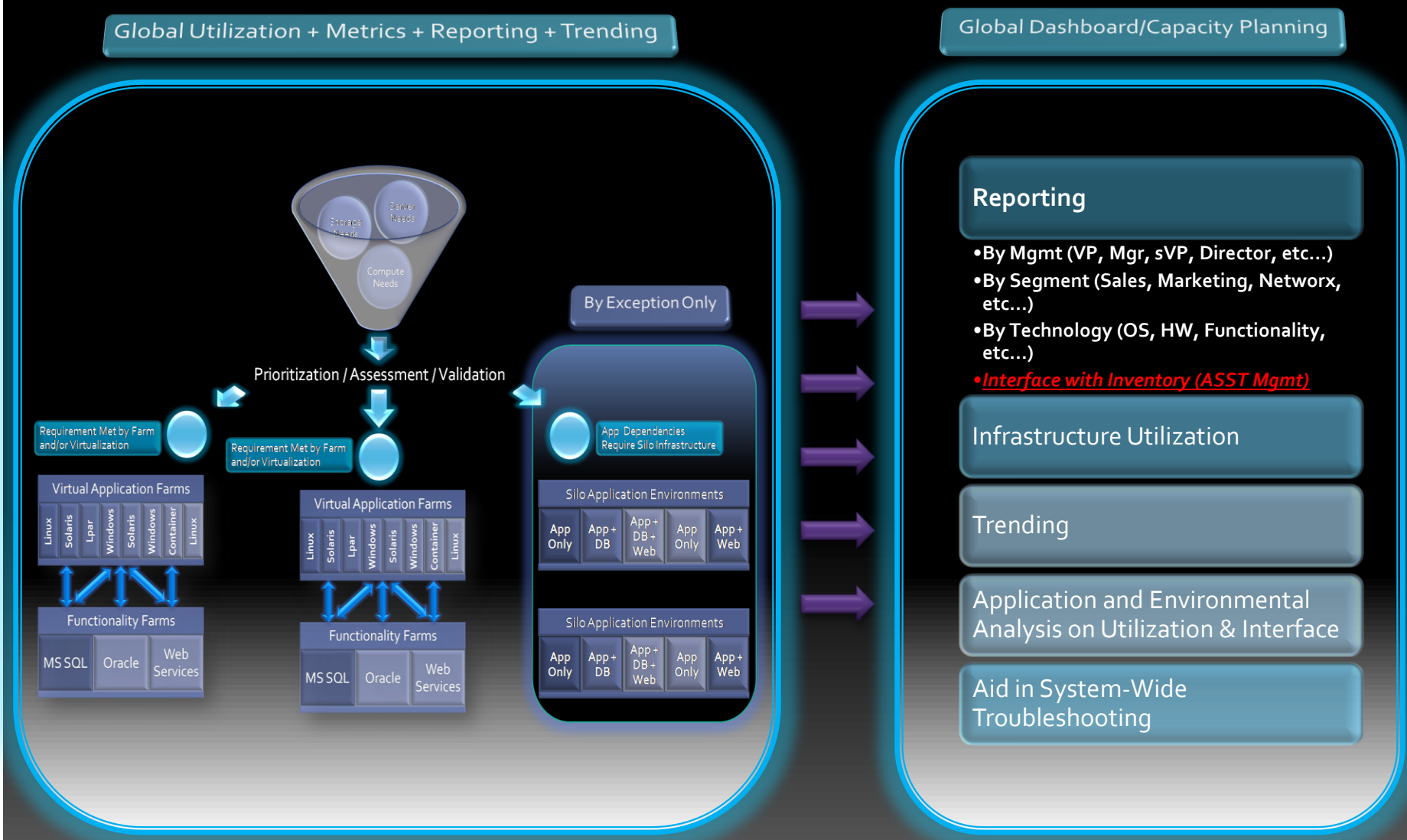
Summary Assessment

- There are several areas where XX can improve via communication, correct data gathering/analysis and change management process applied to processes, standard and architecture
- Careful analysis of global standards for the sake of cost savings must be applied vs. granularity of requirements from each BU and Operations in order for an IT the size of Verizon to not collapse on itself if we want to globalize operations, architecture, processes and standards
- Once we can engage in this ability/analysis, the we can reach a symbiotic end state of business drivers and infrastructure as depicted on the next 3 pages

Demand & Fulfillment Process Fabric



D&F Process Fabric + Capacity Planning



XXb SSF (Shared Services Framework)