UNDERSTANDING THE TECHNOLOGY BEHIND THE IT RATIONALIZATION AND CONSOLIDATION PROGRAM

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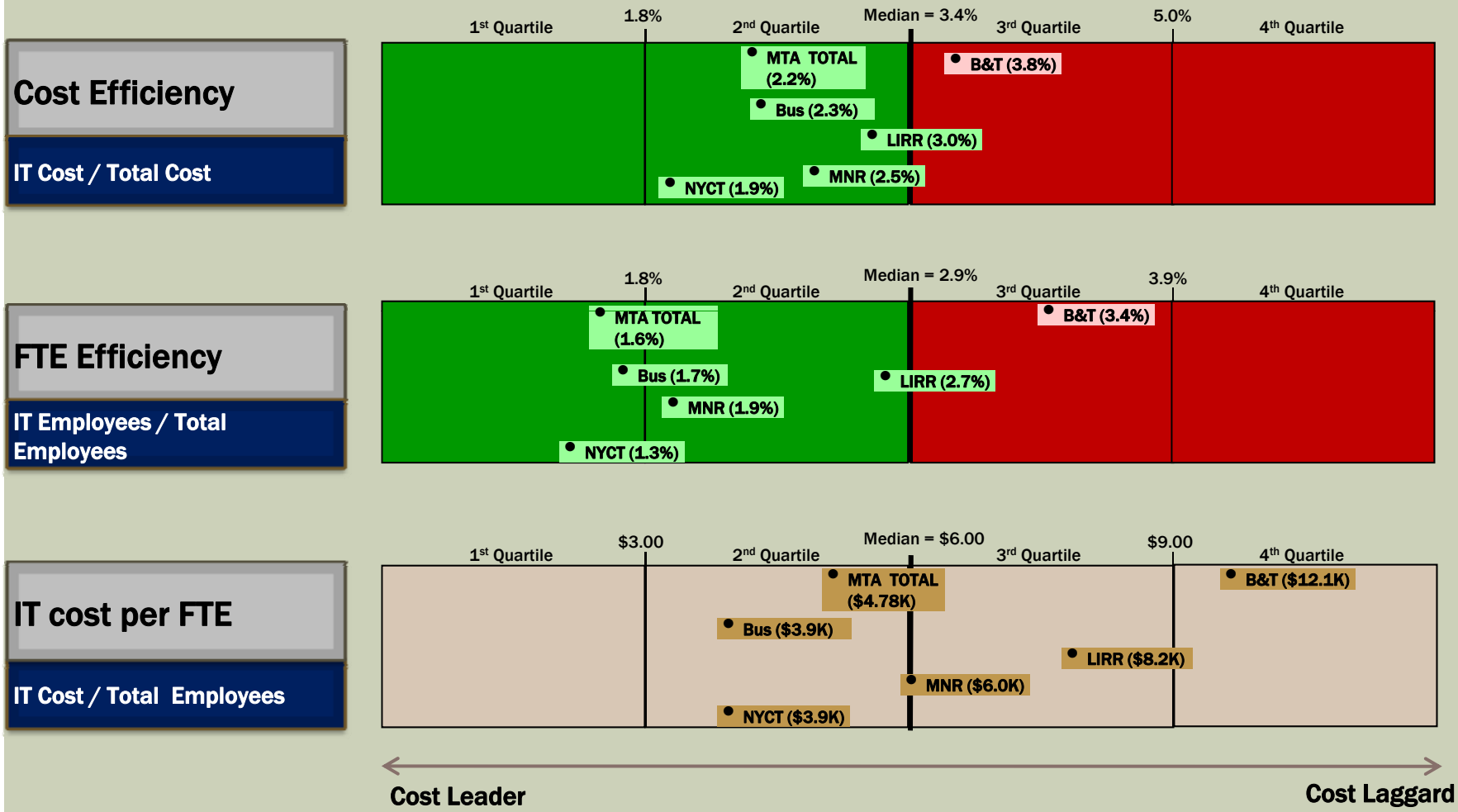
IT INDUSTRY FINANCIAL BENCHMARKS SHOW MTA PERFORMING WELL, BUT WITH ROOM FOR IMPROVEMENT



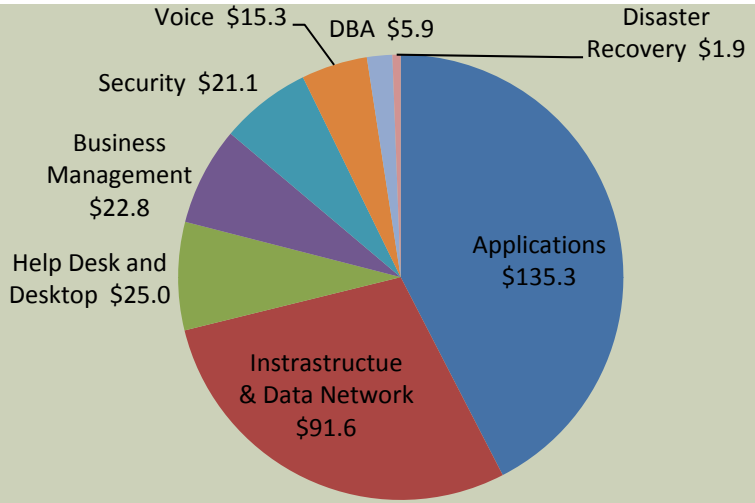
Notes:

- **Source:** Gartner database of similar size private and public companies in transportation industry (airlines, airport management, bus services, freight forwarding, logistics services, marine shipping, trucking, railroads, commuter railroads, intercity passenger railroads, toll road management services)
- HQ & BSC Costs and FTEs allocated to each operating agency based on prorated total agency costs.

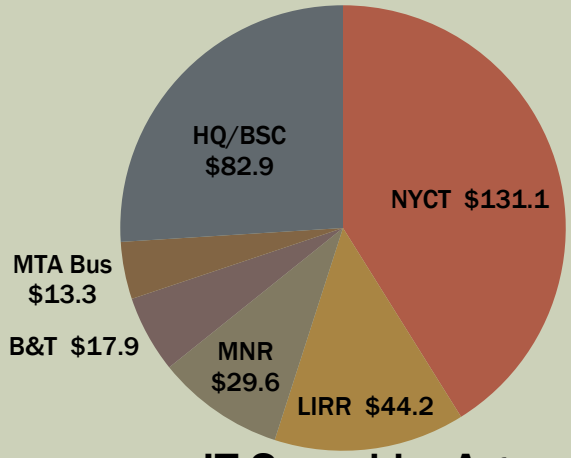
INEFFICIENCY IS TRACED TO FRAGMENTATION

- Prior to 2010, the MTA IT divisions operated largely as independent entities
- IT expertise and assets were not shared, vulnerabilities were not openly discussed, and there was minimal coordination on purchases, capital projects, and other decisions
- CIOs met once a month to coordinate a select number of initiatives related to multi-agency procurements, system interfaces, and a few common enterprise policies
- Duplication of services, systems and processes was inevitable

ANALYSIS OF IT SPEND SHOWS APPS AND INFRASTRUCTURE ACCOUNT FOR 71%



IT Spend by Functional Area



IT Spend by Agency

- 2011 Annual IT spend of $319m is 2.2% of MTA budget
- 1,036 employees, annual labor costs $135m
  - 300 positions reduced since 2010
- Non-labor costs $184m
  - 3-year IT procurement look-ahead developed to coordinate and consolidate vendor buys across agencies

PROJECTED SAVINGS BY WORKSTREAM

$mil

Workstream	2011-2015 Cumulative Savings	Steady-state Annual Savings	Annual Savings as % of 2011 Spending on this Function
Email	1.3	0.3	38%
Security	4.1	0.8	4%
Data Center	13.3	3.1	5%
Applications	25.8	4.0	3%
Help Desk/ Desktop	1.6	0.3	1%
WAN	5.0	1.1	6%
Voice	8.7	2.0	7%
TOTAL	67.0	11.6	4%

Note: IT Strategic Sourcing to save an additional $5m/year. Excludes significant additional savings anticipated from Applications and Help Desk workstreams.

RATIONALIZATION TECHNIQUES SUPPORT ENHANCED IT MANAGEMENT

- **Server virtualization** – One midrange server replaces up to ten smaller servers by efficiently allocating processor capacity and memory (vendors: VM Ware, Oracle VM)
- **Load balancing** –routers and monitoring/diagnostic tools automatically route data traffic among multiple data centers, allowing applications to reside far from end users while enhancing resiliency (vendors: Cisco, Nortel, Oracle)
- **Scalable solutions** – such as email and security monitoring enable more efficient use of staff
- **Enterprise and large volume software licensing** (vendors: McAfee, Oracle GRC)
- **Standardization** of commodity equipment – desktop computers and laptops
- **Inexpensive high speed data circuits** – efficient data center connections allow elimination of small, poorly protected computers rooms
- **Data tunneling** – a logical security feature that allows circuits to be shared by many agencies and applications
- All-agency **temp IT consultants contract** – low hourly pricing now available thanks to agreement reached on requirements, titles, and job classes across agencies

MTA BUSINESS GOALS AND IT PRACTICES ARE NOW ALIGNED

- Procurement effectiveness -- volume purchases, standard terms & conditions
- Economies of scale in hardware and application utilization
- Transparency/auditability -- similar processes consolidated
- Operational consistency -- common business rules from records retention periods to classification of applications
- Priorities set across the entire enterprise with unified IT Governance
- Simplification -- fewer servers, data centers and applications
- Cost efficiency in routine purchases, major investments, and staff deployment
- Standardization of tools and interfaces among systems

EMERGING SOLUTIONS CAN BE MORE QUICKLY ENGAGED

- **Cloud computing** – allows less expensive hosting of public facing applications. Testing with mta.info weather page is ongoing

- **Software as Service** – business solutions are hosted and configured to meet MTA needs without investment in infrastructure, implementation, and maintenance (MTA Bus Time)

- **Thin Client (TC)** – a low-cost desktop computing device that has no hard drive and depends on a network connection to a server to access software and data storage. A traditional pc is considered a Fat Client, and can operate independently. NYCT has plans to convert up to 80% of their pcs to TC devices by 2014; other agencies may follow suit.

- **IT Governance process** –requires that a business case for new IT investments > $1m be developed and approved by Agency and MTA senior management

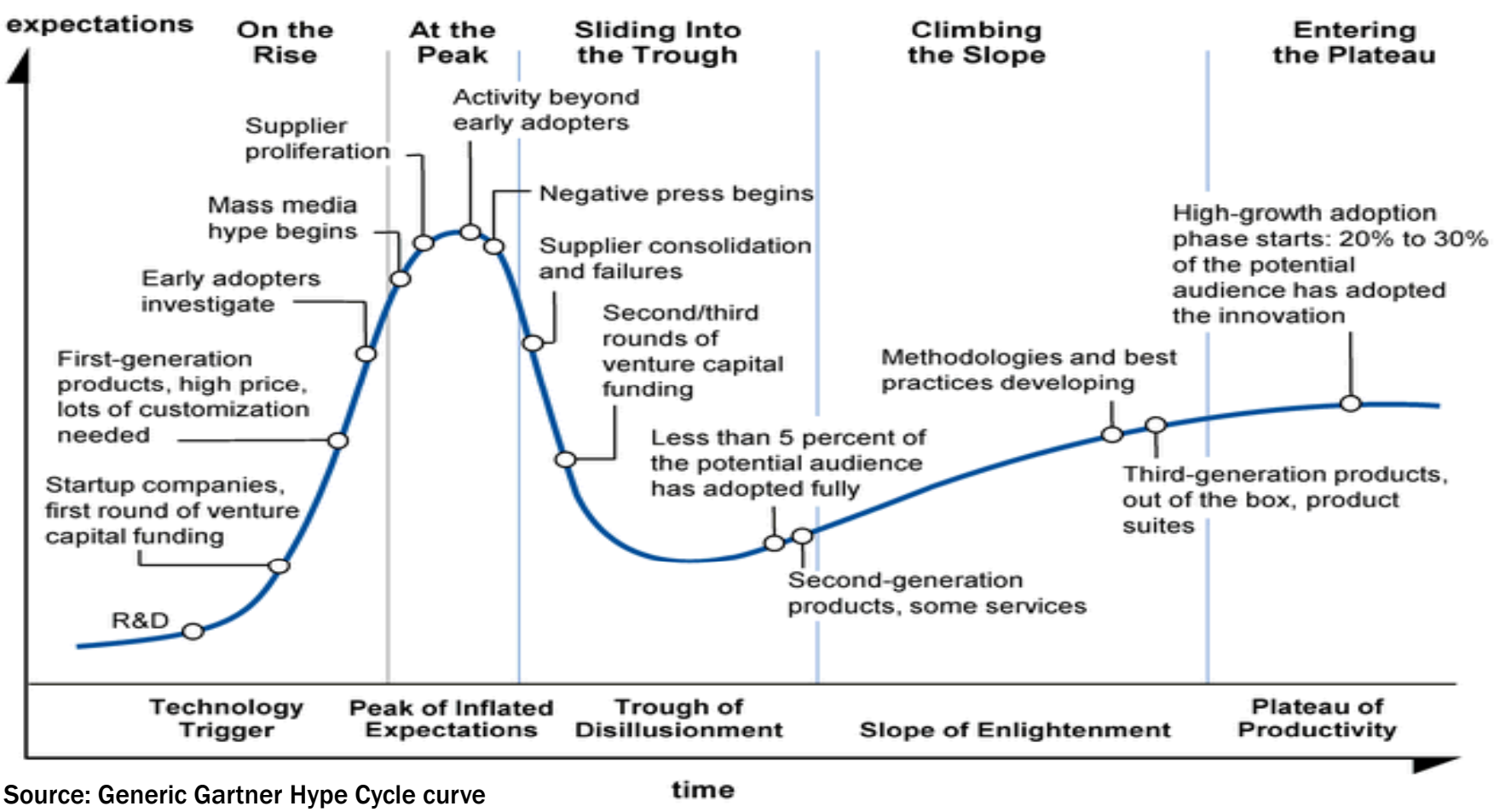
EXTERNAL EXPERTISE IS ROUTINELY USED TO SUPPORT DECISION-MAKING

- CIO teamwork has proved that "all of us knows more than any of us," creating greater openness and acceptance of external advice. We know that we're not the only ones facing an issue and that none of us is unique.

- IT Rationalization has drawn on recommendations and best practices from industry experts (Gartner Research), peer review (NYS OFT, NYC DOITT), and consultants (McKinsey, Accenture, PwC/Diamond)

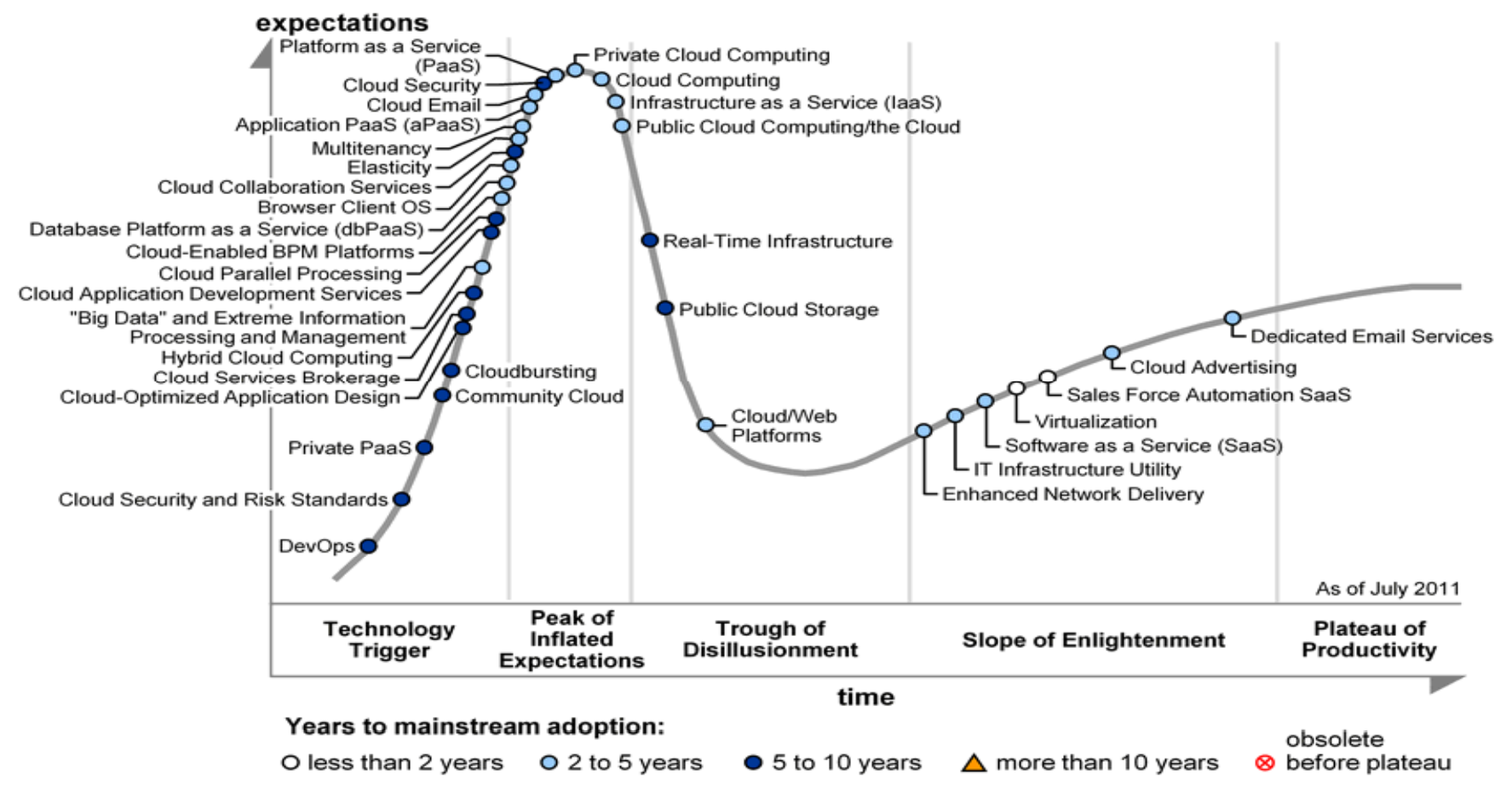
- Gartner Hype Cycle info helps CIOs identify technologies ready for implementation, while magic quadrant designations assist in evaluating vendors (examples on following 3 slides)

HYPE CYCLE ANALYSIS IS USED TO TIME TECHNOLOGY ADOPTION TO MANAGE RISK



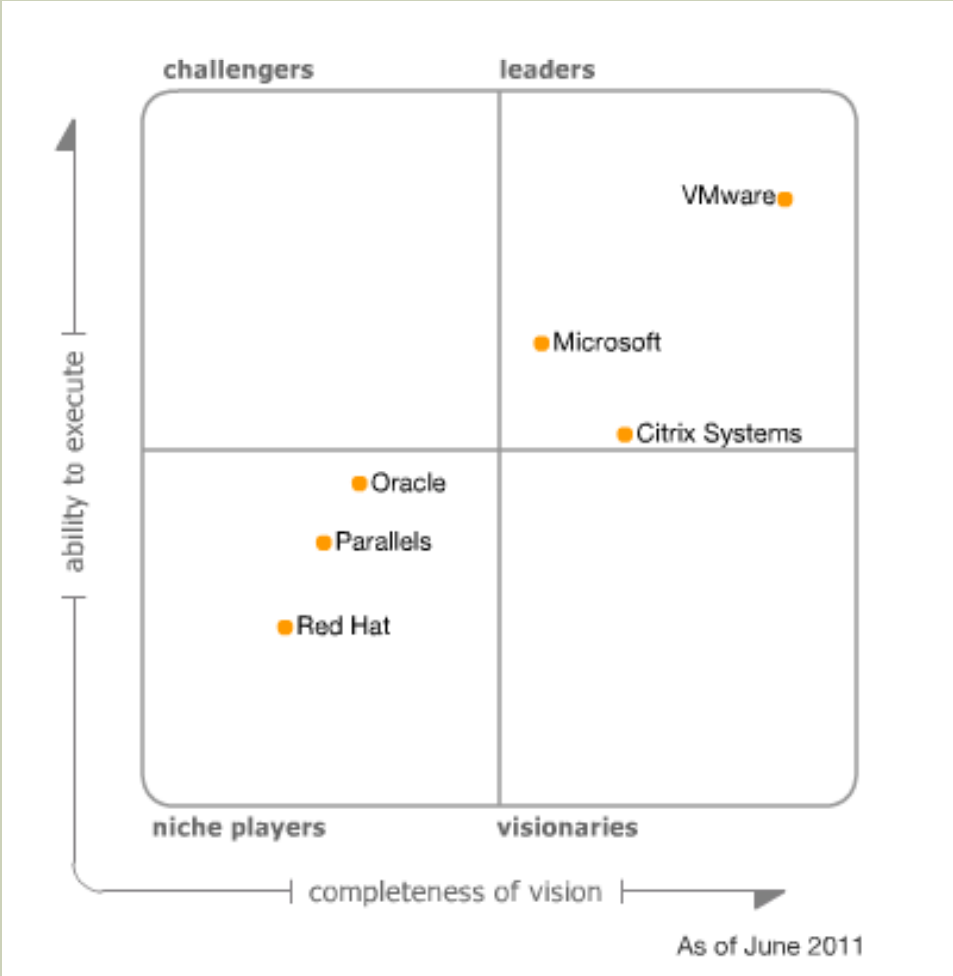
Source: Generic Gartner Hype Cycle curve

EXAMPLE: PUBLIC CLOUD COMPUTING WILL BE MAINSTREAM IN 2 - 5 YEARS



Source: Hype Cycle for Cloud Computing, David Mitchell Smith, Gartner

MAGIC QUADRANTS ASSIST IN EVALUATING VENDOR COST & QUALITY TRADEOFFS



Source: Gartner Magic Quadrants for Server Virtualization Software

Appendix

MULTIPLE WORKSTREAMS ARE BENEFITING FROM WIDELY AVAILABLE SOLUTIONS

- Email/BlackBerry
- Security
- Data Center/Server
- Applications
- WAN
- Voice
- Help Desk and Desktop Support

EMAIL

CONSOLIDATE 7 EMAIL SYSTEMS TO 1 TO ENHANCE INTERAGENCY COMMUNICATIONS

Goals

- Simplify and achieve scale by migrating 7600 email accounts and 1000 BlackBerry users to Outlook 2010
- Standardize features including Global Address List, calendaring, wireless, smart phones, and web mail
- Comply consistently with search requests, mandates and audit findings and facilitate centralized archiving and retention
- Common email retention standards

Status

- Completed for all agencies on one platform, LIRR on a separate but similar platform
- The same email administrator staff from NYCT are now supporting all agencies except LIRR

- **2011-2015 savings - $1.3m total, of which $330k is annually recurring**
- **Standardize email services, policies, and procedures**

SECURITY

INSOURCE NETWORK SECURITY MONITORING IN LIEU OF EXPENSIVE CONTRACTS

Goal

- Leverage the 24x7 security operations center at NYCT for all agencies
- Create and maintain a secure environment for data center consolidation and the user community
- Cancel security monitoring contracts
- Standardize IT security policies, procedures and operational methods

Status

- Completed in 2011

- **2011-2015 savings - $4.1m total, of which $810k is annually recurring**

DATA CENTER

CONSOLIDATE 30+ DATA CENTERS TO REDUCE COSTS AND FOOTPRINT

Goal

- Drastically reduce from the current 2400 physical servers by using virtualization software
- Reduce server and facilities maintenance & operating costs while slashing energy usage and real estate footprint
- Consolidate contracts/licensing, policies and procedures, service level agreements, roles and responsibilities, customer communications, and inventory/asset management
- Achieve optimal virtualization and utilization levels

Status

- Delivery and installation of key equipment is underway
- LIRR labor issues have impacted the scope and schedule of data center consolidation, though server virtualization is proceeding

- **2011-2015 savings - $13.3m total, of which $3.1m is annually recurring**
- **Consolidate support staff**
- **Increase application availability/disaster recovery**

APPLICATIONS (1 of 2)

MANAGE APPLICATIONS PORTFOLIO TO SAVE RESOURCES FOR BOTH BUSINESS AND IT

Scope

- Engaged Diamond PwC to evaluate current portfolio of over 600 applications for savings opportunities
- Implement a strong IT Governance process to align IT strategy with the MTA's overall business strategy
- Evaluate application criticality to set priorities for maintenance, security and to enable effective business continuity/disaster recovery practices

Status

- Several legacy applications have already been retired
- Initial efforts will focus on Asset Management/Maintenance Management practices and software systems (goal is true EAM)
- Design and implementation of a common budgeting system will move forward following BSC Release II

APPLICATIONS (2 of 2)

MANAGE APPLICATIONS PORTFOLIO TO SAVE RESOURCES FOR BOTH BUSINESS AND IT

Strategic Direction

- Invest strategically in new applications, looking for common solutions across all agencies
- Continue to expand data sharing with the Developer Community to maximize MTA and public benefits of existing applications
- Identify business process reengineering opportunities to limit software customization and to promote application system consolidation

- 2011-2015 savings - $25.8m total, of which $4m is annually recurring
- $15m in savings already achieved for 2010-2011
- Achieve economies of scale in staffing, licensing, maintenance, security, and quality assurance by combining or eliminating applications

WAN

DUPLICATE WIDE AREA DATA NETWORKS (WANs) CAN BE ELIMINATED

Goal

- Consolidate IBM and interagency circuits to eliminate redundant network infrastructure and services
- Implement fiber/DWDM network with sufficient capacity to support data center consolidation

Status

- All-agency ISP contract approved at September Board meeting will allow consolidation of internet services at best price
- Verizon TLS circuits for the IBM Data Center in Staten Island to be terminated May 2012, following successful EVPL migration.

- **2011-2015 savings - $5.0m total, of which $1.1m is annually recurring**

VOICE

IMPROVE COST-EFFECTIVENESS OF VOICE AND DATA COMMUNICATIONS

Goal

- Eliminate overcharges, optimize contracted service levels, and streamline vendor dispute resolution
- Implement a Telecommunications Expense Management (TEM) solution to save on voice, data, wired, and wireless communication costs (currently over $16m/year)
- Develop strategic plan to upgrade outdated telecom PBX infrastructure

Status

- Historic billing audits are underway or complete at every agency
- TEM RFP now being drafted. Some agencies may not be able to participate in TEM due to labor issues

- **2011-2015 savings - $8.7m total, of which $2m is annually recurring**

HELP DESK COSTS ARE HIGH AND DESKTOP SUPPORT COSTS MUST BE VALIDATED

Goal

- Help desk support (call intake and first level resolution) can typically be performed off shore at lower cost
- Desktop support requires a physical presence – outsourcing will be investigated, but may not be cheaper
- Promote self-service problem resolution at least costly service level (e.g., password resets)

Status

- NYCT will extend Unisys contract by two years to May 2015
- Unisys has proposed assuming help desk function for MTA HQ/PD, MTA Bus, MNR, and B&T for $420k annually versus current cost of $1.3m. Risks and concerns with this proposal are under discussion.
- All-agency RFP for help desk and desktop support to be awarded in 2014 with go-live June 2015
- LIRR and BSC labor agreements prohibit outsourcing

- **2011-2015 savings - $1.6m total thus far, of which $310k recurring**
- **Meet or exceed Service Level Agreements (SLAs) and measure performance across all agencies to ensure consistent results**