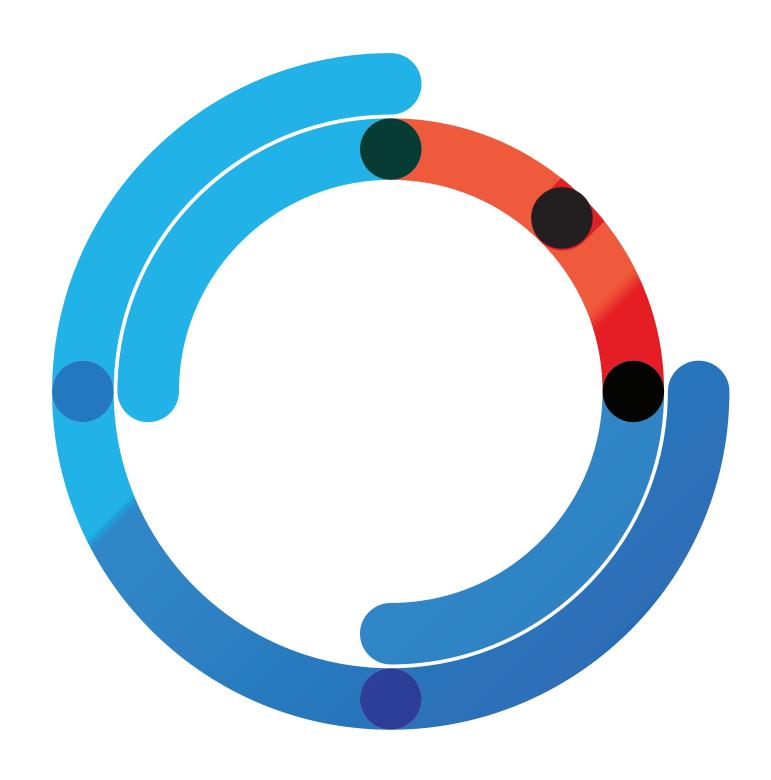
OBSERVATIONS FROM CATALYST

GARTNER FOR TECHNOLOGY PROFESSIONALS
AUGUST 20-23, 2018

GLOBAL TECHNOLOGY SOLUTIONS GROUP





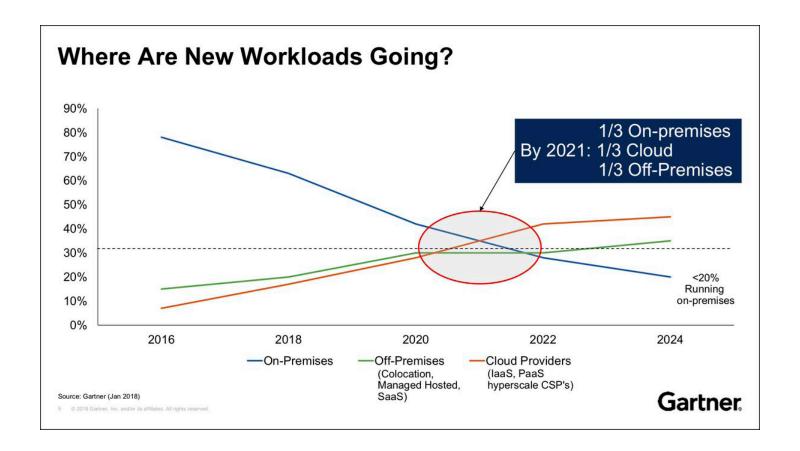
Gartner for Technology
Professionals held their
flagship conference,
the Catalyst Summit,
August 19-23 in San
Diego, California.
Whereas other units
of Gartner focus on
the future, GTP is in
business to help clients
implement what is
happening today.

GTSG subscribes to and listens closely to what Gartner has to say. Why? Our firm has 115 excellent consultants, architects, subject matter experts and project managers who get deeply involved in mission critical client projects over durations of months to years. By contrast, Gartner analysts have perhaps 1,000 interactions with end user organizations per year, per analyst. These interactions are then synthesized, and best practices -and emerging best practices- are identified. Gartner's client set benefits from unparalleled market insight, and GTSG's clients benefit from our leverage of the broadest possible market scan.

What follows is a short summary of what we saw. Some context: with over 2600 attendees at this well executed event, the focus of the content was on "game changers such as cloud, big data, mobile, DevOps, analytics, SaaS, artificial intelligence (AI) and the Internet of Things (IoT)." This note is focused on the aspects of the conference that GTSG is focused on:

- Finding the right strategy for delivering service, with particular focus on the cloud
- Effective architecture of new services
- The risk-mitigated migration of existing workload, and
- The management tools and processes to succeed once in the hybrid environment.

An overarching theme of many presentations is that the role of infrastructure & operations will change, but will be no less important, and more difficult.



"THE DATA CENTER IS DEAD, LONG LIVE THE DATA CENTER"

Analyst Gregory Murray conducted a session by this title which focused on the rapid transformation of service delivery to the Hybrid model, referred to elsewhere as a "complex amalgam of on-prem, colocation and cloud." The chart below shows an inflection point less than three years away.

We spoke with Murray after the event, and he told us that the audience response (at least 200 people in this room) he received was consistent with this realization as well.

EVALUATING CLOUD PROVIDERS

independent evaluation of laaS providers will give way to an evaluation mechanism that covers the integration of both cloud styles (laaS and PaaS), as differences in laaS functionality continue to diminish and the importance of PaaS increase.

The marketplace continues to consolidate and the differences — in IaaS function — between providers continue to diminish. There are only three providers in the leader quadrant of the Magic Quadrant (AWS, Azure and GCP) and three niche players (Oracle, IBM and Alibaba). This is down from ten in the MQ just a couple of years back.

On Sunday afternoon, Gartner conducted a bakeoff among the four entrants — AWS, Azure, GCP and Oracle — against GTP-predefined use cases. We haven't seen any formal scoring, although we were particularly impressed with Microsoft's presentation.

GTP released the results of their 263-criterion survey of IaaS providers. For the first time, Azure scores marginally higher than AWS, but the real takeaways are (1) the narrowing of differentiation in functionality, and (2) convergence of IaaS and PaaS marketplaces.

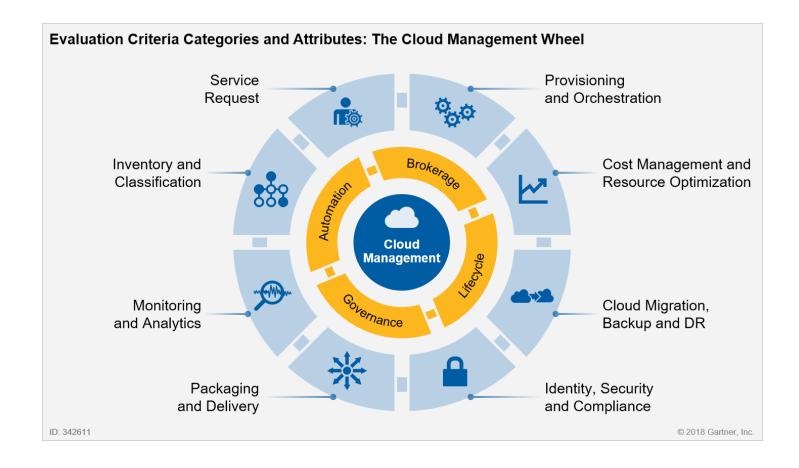
Analysts have told us outside the conference that many enterprises seek a "spreadsheet," or an "algorithm," to choose the right cloud provider. The response we've heard has been "when you choose between Windows and Linux, you don't use a spreadsheet. You get smart people in the room and figure it out."

When GTSG helps with strategy, we happily provide a comparison of the IaaS platforms. However, we incorporate Gartner's counsel, and in all cases encourage and facilitate a close collaboration between AppDev and I&O as the strategy is formulated and governance is executed.

HYBRID CLOUD & MULTI-CLOUD: THE NEW REALITY

Presented by analyst Alan Waite, I&O folks should consider:

- First, the distinction: "Hybrid" implies integration of some kind. "Multi" just means more than one.
- Marketplace growth: Non-cloud Infrastructure has a 2% 5-Year compound annual growth rate; public IaaS &PaaS has a comparable rate of 25%
- This sets the reality: The data center is no longer the center of the data
- I&O' role remains essential a primary concern for cost, efficiency, performance, security, availability, backup, and resiliency.



THE ROLE OF INFRASTRUCTURE & OPERATIONS IN A HYBRID WORLD

"I&O professionals are expert members of the team who understand the nuances of the underlying technology and the complexity beneath the abstractions so that their product development colleagues and users can be productive."

—Alan Waite, Gartner for Technical Professionals.

Stated simply, IT has two conflicting objectives:

- · to grow, or enable the business, and
- to protect the business.

Gartner presented a graphic depicting the five fundamental value statements of I&O — integration, protection, cost optimization, efficiency, and service — and bridged these value statements to some of the functions articulated in the updated version of their cloud management wheel shown below.

PREVENTING SHADOW IT

Better to set boundaries of time and content around the console, Marco argues, than to have "shadow video gaming" at the neighbor's where there is no direct parental control at all.

Shadow IT can be controlled to the extent to which policy is principle based and programmatically enforced. Analyst Marco Meinardi offered an excellent—and downright entertaining—illustration of how to think of shadow IT by relating to a child's "shadow video gaming." Better to set boundaries of time and content around the console, Marco argues, than to have "shadow video gaming" at the neighbor's where there is no direct parental control at all.

The cloud provides benefits which no business will ignore, and similarly, presents risks in new ways than developers or lines of business have thought through. It's I&O's job to understand the needs of the business, yet also articulate risk and set guardrails (which stop a bad outcome) and guidelines (which communicate a risk boundary) for the business.

CLOUD EXPENSE MANAGEMENT

"By 2020, organizations that lack cost optimization processes will average 40% overspend in public cloud." Gartner has a strategic planning assumption that "By 2020, organizations that lack cost optimization processes will average 40% overspend in public cloud."

At least two of the presentations related a cost management horror story of a cloud provider bill running at the expected rate for six months, and then jumping to a 6x multiple of the expected cost in the seventh month.

All of this clearly underscored the need for governance generally, I&O organizationally, and tagging specifically.

ROBOTIC PROCESS AUTOMATION

GTSG learned "offline" from one analyst that 40% of his client interactions were about RPA — even though he was not on the agenda to speak about it. Clearly, an area to watch in for its impact on I&O.

CULTURE

The bottom line: To move from a culture of 'doing what you're told' to a culture of 'doing what you know needs to happen.' Each of the keynote addresses were in some fashion focused on culture. The opening keynote, delivered by GTP executives featured a moving story around MX CTO Brandon DeWitt, well described in a TechTarget report published after the event (note 1).

The bottom line: To move from a culture of 'doing what you're told' to a culture of 'doing what you know needs to happen.'

Reshma Saujani, the founder and CEO of Girls Who Code, delivered a remarkable guest keynote. Her website indicates that the organization has reached 90,000 girls in 50 states, and that her movement is contributing to gender parity in computer science degrees by 2027.

The keynotes wrapped up Wednesday with Jake Knapp walking us through the 5-day design and rapid prototyping process developed at Google Ventures and described in his book Sprint. Key takeaways include a focus on purpose and priority, rather than mere productivity.

STRATEGY IS ESSENTIAL, AND HELPS TO BRING I&O TO THE TABLE

Above all, a client needs to "start with the why," understanding the benefits the organization seeks, or there will no basis on which to evaluate success.

The Gartner solution path places strategy development immediately after the identification of the team that will be held responsible. Decisions such as "cloud or DC first," number and types of providers, workload strategy, skills management, and at least an initial definition of governance, financial and operational requirements need to be determined. Above all, a client needs to "start with the why," understanding the benefits the organization seeks, or there will no basis on which to evaluate success.

Gartner held a cloud strategy workshop providing advice on risk and workload assessment, building the business case, and selecting an implementation framework.

REFERENCES

1 | https://searchcio.techtarget.com/news/252447530/The-message-from-Gartner-Catalyst-2018-Just-do-it

Thank you for your interest in our observations.

For 30 years, GTSG has worked exclusively on Data Center transformation and optimization.

Please reach out if we can help you in any way.

Thank you.

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T 877 467 9885 F 877 225 4084 W gtsg.com E ITServices@gtsg.com

HYBRID CLOUD STRATEGY AND MIGRATION Strategic Approach

- Business case development
- Transition planning
- Technical modeling
- Non-disruptive execution

Application Analysis Methodology and Tools

- Decomposition
- Affinities
- Wave planning

Project Leadership

Implementation Subject Matter Expertise

INFRASTRUCTURE SUPPORT SERVICES Managed Services

- Multi-platform including DB & MW
- Service-level based or FTE-based
- Architecture, administration, programming, systems management
- Remote or Onsite

Project Based Services

- Platform upgrades
- Workload migrations
- Implementation services
- Consulting and Assessment (performance, DR, HA....)
- Project Management

INFRASTRUCTURE TRANSFORMATION

Transition Services

- Insourcing/Outsourcing
- Knowledge transfer and interim support
- Application migration
- Service management design

Disaster Recovery Design and Implementation

High Availability Design and Implementation

Application Assessment and Deployment

- Reference Architecture
- Infrastructure Alternatives/ Recommendations
- Implementation/Migration

INFRASTRUCTURE OPTIMIZATION

Architecture Assessment and Design

Server Virtualization/Consolidation

Storage Optimization

Data life-cycle management

- Tiering
- Standardization/Automation

Application Decomposition Application

Re-design/Remediation Performance

Management and Tuning Latency

Analysis and Consulting