

OBSERVATIONS FROM GARTNER IT SYMPOSIUM

GARTNER FOR TECHNOLOGY
PROFESSIONALS

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GLOBAL
TECHNOLOGY
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GROUP



CONTENTS

GTSG Listens to Gartner	1
Symposium	1
The forces driving change	2
Keynotes	4
Industry Day	4
The Top 10 Strategic Technology Trends for 2020	5
Hyperautomation	6
Democratization	6
Empowered Edge	6
Distributed Cloud	7
Modernization	8
Top 10 Trends Impacting Infrastructure & Operations	9
Infrastructure is Everywhere	11
Distributed Cloud	11
Hybrid Digital Infrastructure Management (HDIM)	12

GTSG LISTENS TO GARTNER

GTSG listens closely to what Gartner has to say.

Why? Our firm has over 100 excellent consultants, architects, subject matter experts and project managers deeply involved in mission critical client projects over durations ranging from weeks to years. By contrast, each Gartner analyst has perhaps 1,000 interactions with end user organizations per year. These interactions are then synthesized, and best practices -and emerging best practices- are crystallized into research which represents the best thinking of a broad range of analysts from the full range of industry segments.

At GTSG, we study over two dozen of these analysts. We benefit from their unparalleled insight; our clients benefit from this broad market scan, as well as the knowledge that our methods are consistent with Gartner practices and solution paths.

SYMPOSIUM

The event is billed as “where the world’s top CIOs. and IT executives immerse themselves in emerging trends shaping IT and business.” There were three tracks (business strategy, leadership, and technology & innovation); and a series of topic headings including

- **Blockchain**
- **Business Intelligence & Advanced Analytics**
- **Cloud and Infrastructure Strategy**
- **Cost Optimization**
- **Customer and User Experience**
- **Customer Experience**
- **Digital Business Transformation**
- **Digital Transformation, Platforms & Strategy**
- **Emerging & Disruptive Technologies**
- **Future of Work**
- **Government**
- **Innovation Management**
- **Internet of Things**
- **Leadership, People and Culture**
- **Legacy Modernization**
- **Public Sector**
- **Security, Risk & Compliance**
- **Strategic Planning and Execution**

THE KEYNOTE: INFRASTRUCTURE ("AND...") IS EVERYWHERE

The pace of change is simultaneously faster than ever and will never be this slow again.

The scope of the event is extraordinarily broad, validated by the demand: over 9,000 attendees. No short paper can hope to represent this event; we've highlighted here what is relevant to our major constituencies in Infrastructure & Operations and Enterprise Architecture.

These notes are grouped into three sections:

- **Forces driving change**
- **Technology implications, which notes from sessions on modernization**
- **Major implications upon Infrastructure & Operations.**

THE FORCES DRIVING CHANGE

The keynote theme was "Winning in the Turns," acknowledging the broad range of challenges to profitable growth from forces in geopolitics, economics, and the emergence of digital giants.

In particular, we noted the cost pressure which may accompany any economic downturn in front of us which is reflected in this chart:



TECHQUILIBRIUM

The balance point where the enterprise has the right mix of traditional and digital capabilities and assets, to power the business model needed to compete most effectively, in an industry that is being digitally revolutionized.

It's central to what we do: we help IT organizations cut cost every day. But beyond that, we help them to rethink the right way to deliver service so that their leadership can invest in the opportunities that will drive growth.

Gartner coined the term TechQuilibrium, which it defines as the “balance point where the enterprise has the **right mix of traditional and digital capabilities and assets**, to **power the business model** needed to compete most effectively, in an industry that is being digitally revolutionized.”



Solid advice on how a CIO can be perceived as a leader: speak to the concerns at the board level – communicate through the lens of revenue, cost, and risk.



KEYNOTES

A remarkable roster of speakers brought leadership- and even technology- messages to light.

Colin Powell shared stories from his long and varied leadership career in the military, as National Security Adviser, as Chairman of the Joint Chiefs of Staff, and as Secretary of State. We learned that Powell was the prime mover in bringing technology to the State Department.

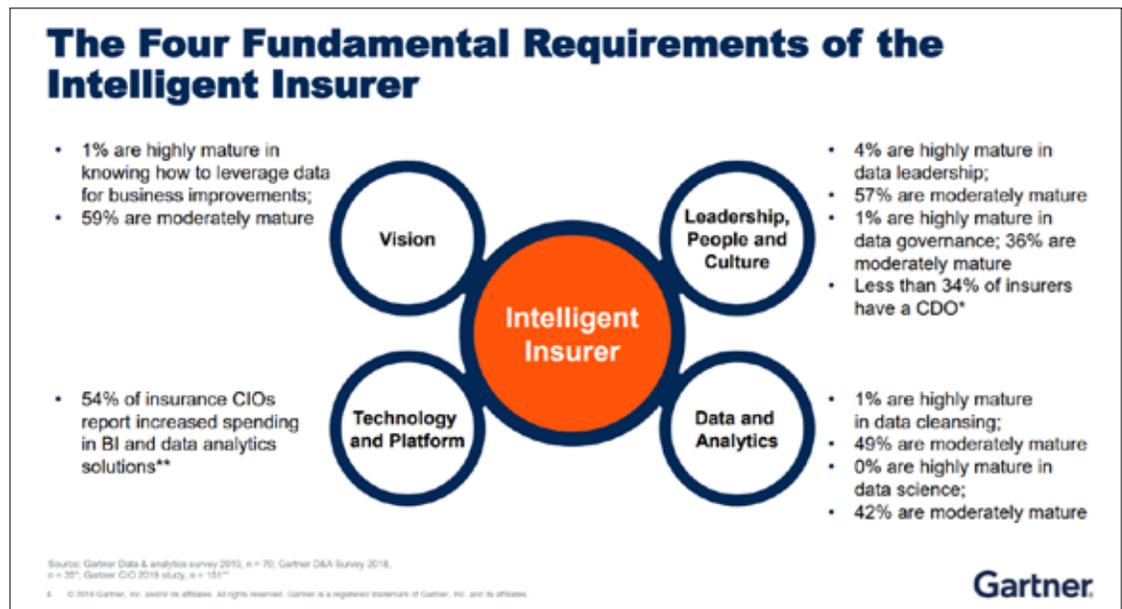
Tim Berners-Lee observed the 30th anniversary of the web, and reminded the audience that the purpose of the web was to enable collaboration whether it's clean water, or better democracy, or the retention of their culture, along with comments on a wide range of issues from security and privacy to the ethical use of the technology: one questioner even asked "is truth possible?"

Malcolm Gladwell offered his observation on the frequently decades-long lag time between the availability of technology and its full exploitation- using his own current audiobook sales as an illustration. Gladwell has incorporated enhancements including music and actual recorded interview notes into his most current release: it is outselling the hardcover 2:1.

The Sunday keynote "Pushing the Envelope: Being the Best When It Counts," by Nicole Malachowski, was illustrated with anecdotes from her remarkable career leading to becoming the first female U.S. Air Force Thunderbird pilot. "500 feet off the ground- 400 miles per hour- 3 feet apart" sums it up very well.

INDUSTRY DAY

The conference opened on Sunday with Industry Day. As GTSG has a number of clients in Insurance, we sat in two of these sessions, hosted by Kimberly Harris-Ferrante. In the first, building the data-driven insurance organization, she reminded us that people, process and organization remain utterly indispensable to success- look for “soft” or “behavioral” elements in the chart below.



In the second Kimberly focused on Artificial Intelligence, with a survey of use cases to date and recommendations going forward. Analogous sessions ran in health care, banking & financial services, government, education, and retail.

THE TOP 10 STRATEGIC TECHNOLOGY TRENDS FOR 2020

The Top 10 Strategic Technology Trends for 2020	
People-Centric	Smart Spaces
 Hyperautomation	 Empowered Edge
 Multiexperience	 Distributed Cloud
 Democratization	 Autonomous Things
 Human Augmentation	 Practical Blockchain
 Transparency and Traceability	 AI Security

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Gartner

Analyst Brian Burke presented these trends as organized around serving people and the smart spaces which they occupy.

While each unto itself is fascinating and relevant, with implications ranging from human augmentation to election integrity, our notes focus particularly on our client set in Enterprise Architecture and Infrastructure & Operations:

HYPERAUTOMATION

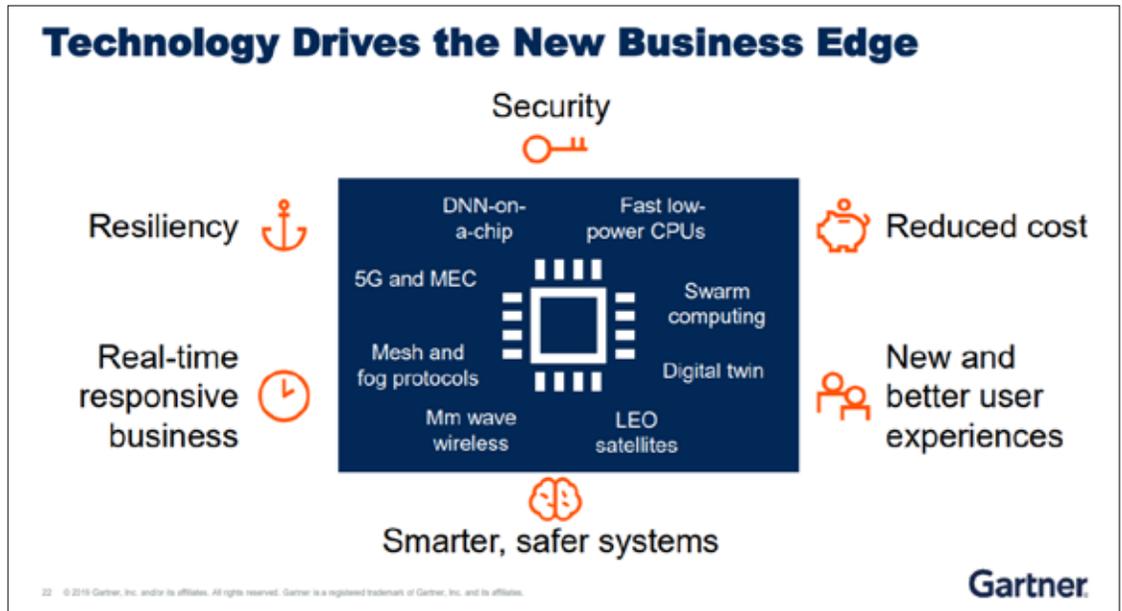
look to automate everything that we can, Gartner advises, but the number one use case is process automation. The steps on the path from simple to hyperautomation are: task (rules, RPA); event (APIs and feeds); process (workflow); conversational UX (e.g., chatbots); business operations (DigitalOps); and ultimately intelligence (AI/ML).

DEMOCRATIZATION

Gartner has a Strategic Planning Assumption (SPA) which states that by 2022, 30% of organizations using Artificial Intelligence for decision making will contend with **shadow AI** as the biggest risk to effective and ethical decisions. From a day-to-day standpoint there are all the governance challenges that attenuate any other technology.

EMPOWERED EDGE

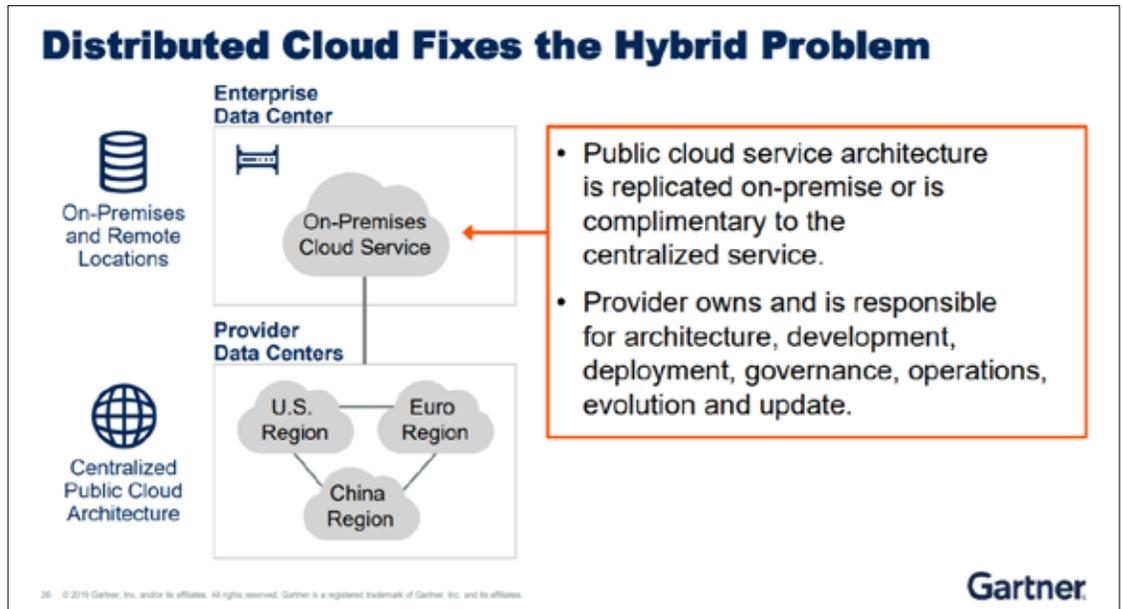
a shift of compute power to edge devices, provides the capability to process data offline, reducing latency. Gartner believes that by 2023, more than 50% of enterprise-generated data will be created and processed outside the data center or cloud, up from less than 10% in 2019.



DISTRIBUTED CLOUD

Assumption: By 2024, the majority of cloud service platforms will provide services that execute at the point of need.

With distributed cloud, the location of the cloud services is relevant, even essential. This cloud style enables low-latency compute closer to the end user, both improving performance and also supporting data sovereignty requirements. This model is extended out to the edge which will be enabled by hyperscaler offerings such as Azure Stack, AWS Outposts and Google's Anthos.



MODERNIZATION

Dennis Gaughan opened his session by dismissing the idea that anyone in the room can simply discard their portfolio and restart with cloud-native applications, thereby shortcutting the hard work ahead. He identified four key drivers of change - Global Markets and Ecosystems; Digital Disruptions; Pace of Business Change; and Aging and Bloated Applications; then offered the key points to succeed in getting something accomplished- because we simply can't do it all at once.

Triage first to identify near-term priorities: Gartner suggests the TIME model depicted below to set priorities:

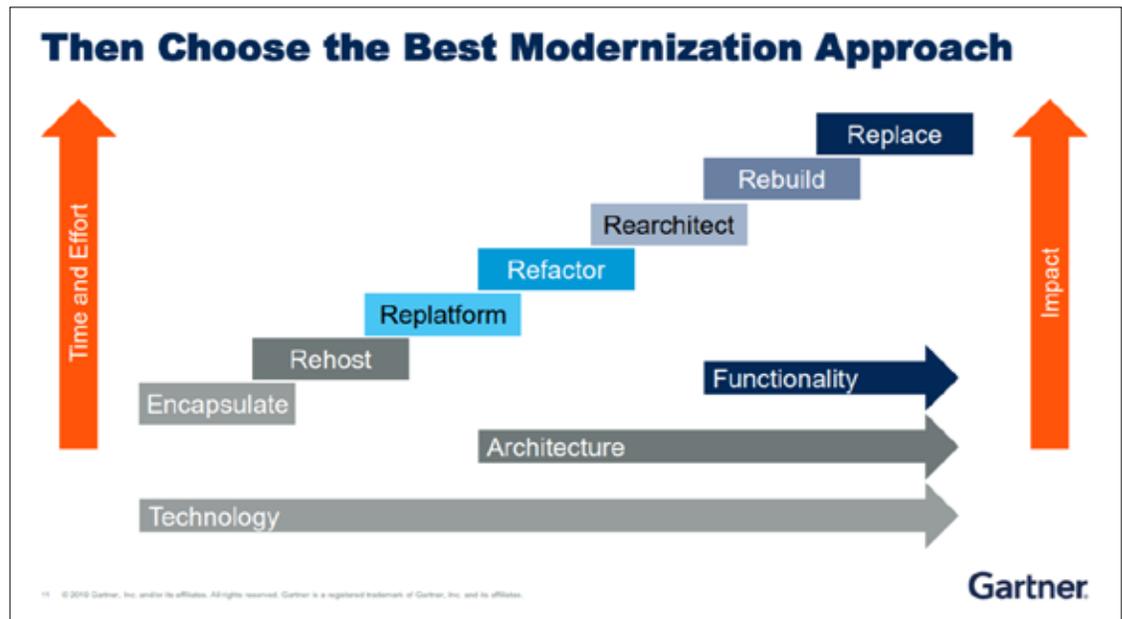


Establish your business case on growth, not risk: Dennis offers that to the CFO and the committees who ultimately approve funding, modernization to mitigate risk can look like a large investment in a “shinier new object.” Gartner studied the most successful motivations for motivation:

- **Support Innovation in the Business**
- **Gain Market Share**
- **Improve Operational Efficiency**

MODERNIZATION (CONTINUED)

Business goals drive architecture choices: once the hurdle is cleared to making change, architecture approaches need to be selected. Dennis advises categorizing functions and applications in the longstanding distinction among innovation, differentiation or foundation and then utilizing the 6Rs plus “encapsulation” to make the choices



In this taxonomy, “encapsulation” refers to making data and functions available as services via an application programming interface (API).

The key here: fitness for use. Dennis re-emphasizes that, just as with the Magic Quadrant, “top right” is not automatically the right answer:

- **Not everything needs to be modernized: again, what’s the business case based on growth rather than risk**
- **Modernization is a continuous focus: not simply an initiative**

TOP 10 TRENDS IMPACTING INFRASTRUCTURE & OPERATIONS

- Automation Strategy Rethink
- Hybrid IT vs. DR Confidence
- Scaling DevOps Agility
- Infrastructure Is Everywhere — So Is Your Data
- Overwhelming Impact of IoT
- Distributed Cloud
- Immersive Experience
- Democratization of IT
- Networking — What's Next?
- Hybrid Digital Infrastructure Management (HDIM)

These are trends which will impact operations which operations folks might not be paying attention to, as David Cappuccio notes, “because they have day jobs keeping the lights on.” We can’t cover everything in this space, but some of the thoughts which particularly struck us include:

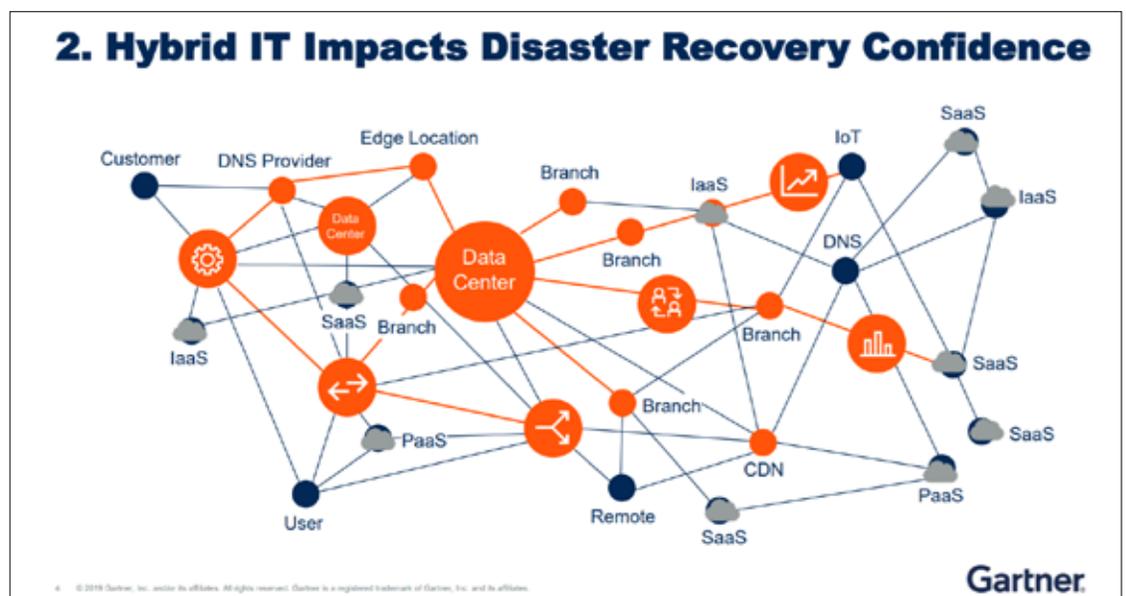
“Nobody is using automation to get rid of I&O staff; they are using it to free them up to do real work.”

Automation Strategy Rethink: the good news is we’ve been doing it; the bad news is we’ve been doing it opportunistically—and therefore in islands. David fears that these solutions will work so well that they fade into the context of the operation. Someone in each organization will need to tie this together; Gartner believes that by 2025, 90% of firms will have an automation architect to manage the complexity.

TOP 10 TRENDS IMPACTING INFRASTRUCTURE & OPERATIONS (CONTINUED)

Hybrid IT vs DR Confidence: When David asked “how many of you have confidence that your Hybrid IT strategy will actually work?”, at first no hands, then very few hands, went up. David said, “I see a few hands- mainframe people.” (As longtime mainframe SMEs GTSG has an appreciation for this.)

This chart depicts the complexity of the Hybrid environment in which we all find ourselves to one extent or another:



By 2021, the root cause of 90% of cloud-based availability issues will be the failure to fully use Cloud Service Provider native redundancy capabilities.

This complexity drives us toward “pockets of DR”, resulting in the need to rethink DR from end-to-end. And “because something is in the cloud, it’s not automatically available” which hopefully we all know by now, but it needs to be said. They are not directly people toward DRaaS; that marketplace may be contracting. The key: consider DR as part of development, with application and resiliency architects talking to each other directly.

TOP 10 TRENDS IMPACTING INFRASTRUCTURE & OPERATIONS (CONTINUED)

INFRASTRUCTURE IS EVERYWHERE

By 2022, more than 50% of enterprise-generated data will be created and processed outside the data center or cloud, up from less than 10% in 2019.

...and as importantly, data is everywhere. Infrastructure and data both need to be where the business needs them to be, for reasons ranging from latency to data sovereignty.

This is as complex as it sounds, but the proper reaction to the silos that result, the AI/ML driven increase in data, challenges.

Recommendations included assessing the impact of data-driven infrastructure at early stages of solution design, investment in infrastructure tools to manage data wherever it resides, and the modernization of existing backup architectures to protect data wherever it resides.

DISTRIBUTED CLOUD

Known to some as tethered cloud; distributed cloud is defined as “the distribution of public cloud services to different physical locations while operation, governance, updates and the evolution of the services are the responsibility of the originating public cloud provider.

Providers have determined that they need to enable cloud-like services everywhere – including on – premises – if they want to continue to grow.

The notion began with multiple regions and is now extending to Edge. The Big Three have all announced solutions; Microsoft AzureStack, Amazon Outpost, Google Cloud Platform Anthos.

VMware, David says, seems to understand the pain that we are all going through by establishing partnerships with everyone: they are enabling the movement of on-prem solutions to a cloud or cloud- like environment.

The key issue going forward, and particularly for I&O folks, is Day Two. How does this all play out? Who manages this infrastructure, who controls it, who owns it, and what if I want to switch providers? These questions are as yet unanswered “at scale” in the marketplace.

TOP 10 TRENDS IMPACTING INFRASTRUCTURE & OPERATIONS (CONTINUED)

DISTRIBUTED CLOUD (CONTINUED)

Other implications include the number of issues in play, who negotiates with which partner in the ecosystem, who does the integration; what about lifecycle management? It's a nascent market, so while listening to the vendors is fine, David recommends, as always, that you check references, and don't simply believe the PowerPoint.

HYBRID DIGITAL INFRASTRUCTURE MANAGEMENT (HDIM)

"Infrastructure is Everywhere" - but what his clients need to know is how to discover it. When a customer calls with IT an issue, IT needs to know what nodes has the issue has been through, what other applications is it impacting, and how it all ties together. The challenge comes from the vertical organization of the team by technology stack, so they can't figure it out. He sees that clients are looking for tools that help them to accomplish this.

Dave notes that this is an emerging market of tools, initially focused on asset tracking; intelligent discovery of the assets. This is an emerging market of tools and does not represent a "rip and replace" - these systems pull from ITAM and ITOM systems. No one does all of this; in fact, Dave advises us that if we're speaking with a vendor who says they can do it all, we should walk away.

Thanks for reading through our summary. At GTSG, we make it our business to understand what Gartner is saying about the important challenges confronting our clients.

**GLOBAL TECHNOLOGY
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If you'd like to discuss any of these topics further, please reach out to PARTNERS@GTSG.com.

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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