Future-Ready Datacenter, Future-Ready Managed Services
The Five Things You Need to Know Right Now

Webinar Presented by ASMGi and Flexential

April 11, 2019
Today’s Presenters

Steve Roesing
*President, CEO, ASMGi*

![Steve Roesing LinkedIn profile](image1)

Ken Makoid
*Northeast Regional VP, Flexential*

![Ken Makoid LinkedIn profile](image2)
ASMGi is ...

Global Technology Services and Consulting company focused on **Total Solutions** that provide positive impact to your business

**Total Solutions = People + Process + Technology**

We deliver IT, Software and Cyber Security solutions from our headquarters in Cleveland, OH by helping our customers Plan, Manage and Execute:

- Strong programs as a foundation to meet compliance requirements as well as foster best practices across the enterprise
- Best-in-Class platforms and tools to drive value thru adoption and shorter time to value
- An eco-system model to ensure tools work together
- Achieve Results:
  - ONEteam “XaaS” capabilities to ensure you maximize adoption – *Benefits without the Burden*!
  - “Fill the gap” approach to leverage your existing resources and complement/supplement where needed
  - Action = Results -> Orchestrated Action = Great Results!
Gartner Cloud Shift
In Two Years, More than Half of Workloads Will Run in Cloud

451 RESEARCH’S VOICE OF THE ENTERPRISE:
CLOUD TRANSFORMATION, WORKLOADS AND KEY PROJECTS 2017

OVERALL CLOUD USAGE:
45% of workloads today
60% in two years

<table>
<thead>
<tr>
<th>Category</th>
<th>Today (n=443)</th>
<th>In Two Years (n=450)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Software-as-a-Service (SaaS)</td>
<td>15.0%</td>
<td>21.2%</td>
</tr>
<tr>
<td>Infrastructure-as-a-Service (IaaS)</td>
<td>9.8%</td>
<td>15.9%</td>
</tr>
<tr>
<td>Hosted Private Cloud</td>
<td>7.8%</td>
<td>9.2%</td>
</tr>
<tr>
<td>On-premises Private Cloud</td>
<td>12.7%</td>
<td>14.1%</td>
</tr>
<tr>
<td>Non-Cloud</td>
<td>54.6%</td>
<td>39.6%</td>
</tr>
</tbody>
</table>
By 2025, 80% of enterprises will have shut down their traditional data center, versus 10% today, according to Gartner’s report Prepare for the Death of the Data Center as We Know It.
Why?
1. Strategic = Focus on core competencies

2. Move compute closer to the data
Colocation: A Strategic Alternative to a Cloud-first Mandate

According to Gartner’s report:

“Infrastructure and operations leaders planning for the future of infrastructure delivery should: Move legacy workloads into colocation or hosting models in order to retire on-premises data centers.”
Colocation offers three main advantages – cost, compliance and control.

• Cost – Colocation offers economies of scale and predictable cost models on-premise data centers can’t match without the 10 year+ leases and depreciating data center infrastructure.
• Compliance – Colocation providers assume much of the compliance burden, and offer improved uptime and availability, freeing enterprises to focus on their core business operations.
• Control – Colocation gives enterprises the control and autonomy of dedicated infrastructure previously only available in their own data centers.
Today, more than 99% of things in the physical world are still not connected to the Internet.

But a phenomenon called "The Internet of Everything" will wake up everything you can imagine.

By 2020, 37 billion intelligent things will be connected to the Internet.

Using microsensors on the network, everyday objects become connected and intelligent.
Big Data or Big Mistake?

- 70 samples per ° x 360° x 1000 RPM
- For 360 days/year
- > 1,000 PB/year
- x 40 Compressors

Big Data or Big Mistake?
• 2,000 readers so ~10,000 reads / sec
• Hundreds of thousands of tagged assets
• Each asset gets “seen” by multiple readers
• Tag read database of terabytes
• Computationally intense to process
Azure and Azure Stack
Truly consistent hybrid cloud platform

Portal | PowerShell | DevOps tools

Azure Resource Manager

Azure IaaS | Azure PaaS
Compute | Network | Storage | App Service | Service Fabric

Cloud-inspired infrastructure

Microsoft Azure Stack
Private | Hosted

Sealed hosts
Integrated Systems Hardware

CONSISTENCY

IT

Developers

Portal | PowerShell | DevOps tools

Azure Resource Manager

IaaS | PaaS

Cloud infrastructure

Microsoft Azure
Public

Sealed hosts
Azure-designed Hardware
How do you prepare for the future?

Plan, Manage and Execute
Planning

- Optimal mix of Cloud, Colo, Edge and On-Premise
- Relocation Services
  - How do we move what we have?
Execute:
- Data Center Relocation
- Operations
  - Data Center as a Service
  - NOC/SOC as a Service
  - DR as a Service
From the Edge to the Core
Delivering services from the edge to the core activates untapped business intelligence
The 5 things you need to know

1. Edge enables Digital Transformation
2. Latency Kills! – actionable data closer to the user
3. Develop Edge and Distributed strategies now
4. Improve the connectivity from the edge to the core
5. Improve capacity from the edge to the core
INTERNET TRAFFIC

Has increased 5x in the past 5 years

Expected to grow 2.3ZB by 2020

21B BILLION
Active devices powering people, machines and the internet of things will generate approximately

600ZB OF DATA BY 2020

MOBILE DEMAND WILL INCREASE

51% of millennials can’t go more than 3 hours without checking their phones

55% of millennials watch streaming video several times a day, on various devices

MOBILE VIDEO STREAMING ACCOUNTED FOR

60% of all mobile device traffic in 2016

Expected to rise 78% in 2020
Defining the Infrastructure

**CORE**

Hyperscale cloud datacenters

**NEAR-EDGE**

Interconnection/colo/enterprise/teleco CO datacenters

IoT CONVERGED DEVICE

**EDGE**

Low latency
High-capacity fiber
Long-term data analysis
Archiving
Enterprise applications

Medium latency
Fiber & wireless
(cellular, microwave, etc.)
Local data analysis and action

Ultra-low/low latency
Wired & wireless
(cellular, WiFI, Bluetooth, RF, etc.)
Local data analysis and action

SMART CITIES

SMART BUSINESS

SMART INDUSTRY

THINGS
Edge enables the digital transformation

Consider the impacts of the next 1 Billion users

More IoT and AI deployments and success stories: IoT and AI begin to deliver value in agriculture & aquaculture

Tier 1 banks embrace AI & blockchain for various applications

Smart Cities: Government awards funding for SC projects

Increased use of autonomous vehicles in mining and agriculture

5G Network Mobile & IoT: Journey towards excellent customer experience

Oceania & Asia: Highest growth in 2017 in colocation data center

* Courtesy of Vertiv
Intelligent AI and machine learning will drive traffic back into the network at incredible data rates.
Data services are exploding, and traffic patterns are changing.
Latency Kills!

Health Care
A.I.
Safety
Gaming
Retail

Analytics, Archive, Big Data, Development
Regional Compute, Gaming services, Actionable AI Analytics, on demand storage
Latency intense: AI response, IOT and user content inputs, Mobile data aggregation
Mobile, User Apps, bi-directional data

Core
Near Edge DC
Far Edge Micro DCs
Cell Towers, Mobile

<5ms
<10ms
DATA NEEDS TO BE PROCESSED CLOSER TO USERS

Unlike centralized data centers, edge data centers push processing physically closer to data sources.
Near Edge Data Centers are the hub for far edge deployments.

- Smart Cities, Manufacturing
- Health Monitors, remote surgery
- Autonomous vehicles, Drones
- Gaming, retail Virtual Reality
Develop your edge and distributed strategies now.
Develop service offerings to support edge deployments

Utilize more near edge data center deployments to manage data, traffic, etc.

Improve the connectivity and capacity from Edge to Core. Plan to tether the far edge.

Deploy more services to the Edge, within 10ms. Define what data needs to be managed at the edge.
Interconnection is the Key:
Define how to move data efficiently between Edge and Core

Make decisions on what is managed at the edge and what is delivered to the core.
✓ Drop and Dump non critical data at the edge
✓ Take action for critical data, utilize FOG
✓ Deliver to the core only data that needs deep analytics, long term storage, and high security (PCI, etc.)
  • These are very costly to distribute, thus Core will still have relevance
Our Network

Our 100Gb core fiber network ensures maximum performance and reliability and supports edge computing strategies.
The foundational principle of edge computing is that latency-sensitive applications need to be as close to the consumer as possible. The edge is simply a location that is close to the user or customer.
Interconnection is the Key

Connect the Dots

Questions?
Upcoming Events

ASMGi and Flexential Wine and Learn
Datacenter & Managed Services for the Future
Date: Wednesday April 17, 2019
Time: 2:30 PM ET
Location: Flexential Collegeville Data Center, 1000 Black Rock Road, Collegeville, PA 19460
REGISTER: https://lp.flexential.com/ASMGi-Wine-Learn_Registration-Page.html

Flexential’s Philly Colo and Cloud Center
2nd Annual Block Party
Date: Thursday, May 9, 2019
Time: 3:30pm - 6:30pm
Location: Flexential Collegeville Data Center, 1000 Black Rock Road, Collegeville, PA 19460
REGISTER: https://lp.flexential.com/PA-Collegeville-Block-Party-2019_Registration.html
ASMGi has strong strategic partnerships to help create your future...