Journey from the Basement: Data Management within Colocation

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Conflict of Interest

Jennifer Greenman, MBA
Has no real or apparent conflicts of interest to report.

Michael Fuhrman
Has no real or apparent conflicts of interest to report.
Agenda

• Introduction to Colocation Services
• Data Management Trends in Healthcare
• Moffitt’s Journey to Colocation Services
• Challenges and Lessons Learned
Learning Objectives

• Define colocation, discussing its potential, outline its capabilities and implementation processes within an organization and how to choose the right partner to help with the process

• Evaluate the long-term, sustainable benefits of colocation as a standalone strategy, or as part of a hybrid IT approach, within a healthcare organization

• Identify the warning signs of an unsustainable IT strategy

• Recognize how an organization can successfully consolidate IT systems to a single location, while increasing footprint and simplifying processes and operations

• Discuss potential factors that could create hurdles or signal that your organization may not be ready to move forward on complex IT infrastructure strategies like colocation or hybrid cloud
State of the Industry
The Rise of Data

The amount of data will continue to grow exponentially over the next several years.

Source: IDC’s Digital Universe Study
In just four years, global IP traffic has more than doubled, much of it due to the explosion of streaming video.
Whoa! – IoT...

In comparison to the growth of global IP Traffic, the amount of data generated by IoT devices by 2020 is staggering.

2020

600 ZB

Data Generated

2.3 ZB

Global IP Traffic
(Data Center to User)

Source: Cisco Global Cloud Index: Forecast and Methodology, 2015-2020
Capacity & Costs

• Average monthly consumption (residential home): 900 kW

• Estimated absorption (new leasing from enterprises) in multi-tenant data centers in US: 195 MW
  – Equivalent to powering 150,000 homes!

• Typical 5MW facility for an enterprise costs $270M over 10 years to build and operate

Source: CBRE
Exiting the Enterprise-Owned Data Center

$800M in sales of enterprise data centers in 2015

$1.8B in sales of enterprise data centers in 2016

WHY are they leaving?
- Costly Reduction
- Improving Operational Efficiency
- Increasing Reliability

Source: CBRE
Cloud and Edge...

There is a clear evolution from simply space and power to a hybrid, edge-connected world.

Source: IHS Markit
Why Colocation?
Expertise

• 24x7 Personnel
• Remote Hands
• Customer Support
• Managed Services
Connectivity

• Carrier Density
• Cloud Connections
• Ecosystems
• Redundancy
• Security
Flexibility

• Short-term vs forever
• Pay for space and power you consume
• Mix and match the right services/expertise
Risk Management

- Compliant infrastructure
- GRC tooling
- BAA
Data Management Trends in Healthcare
Data Management Trends in Healthcare

- Exponential increase in storage and computing requirements
- Demand for agility in provisioning and life cycle management procedures

- Expectation for high availability and redundancy
- Increase attention on continuity and disaster recovery capabilities

- Aging physical infrastructure
- Competition for scarce expansion and investment resources

- Rapidly evolving threat environment
- Significant regulatory focus
Moffitt’s Data Center Journey

- **1986**: Moffit Cancer Center opens
- **2004**: New data center is constructed in hospital basement
- **2011**: Data center expansion partner
- **2016**: Transition and consolidation into state-of-the-art, Tier 3 data center with colocation provider
Challenges Arising from Rapid Growth

Moffitt Then and Now

<table>
<thead>
<tr>
<th></th>
<th>1986</th>
<th>2016</th>
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<tbody>
<tr>
<td>Employees</td>
<td>409</td>
<td>5,400+</td>
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<tr>
<td>Outpatient visits</td>
<td>9,843</td>
<td>351,421</td>
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<td>Admissions</td>
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<td>9,384</td>
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<td>Grants</td>
<td>&lt;$500,000</td>
<td>$72M</td>
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<td>Total Sq. Ft.</td>
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Capital Funding Limitations

Power and Cooling Constraints

Data Center Structural Insufficiency

Necessity for 24/7 Support & Availability

Limited Physical Expansion Space
Benefits of Colocation Partnership

- Enhanced Infrastructure Resiliency
- Capacity for Growth & Innovation
- Streamlined Operational Processes
- Predictable Expense Management
- Simplified Oversight & Compliance with Regulatory Requirements
Challenges and Lessons Learned
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• Detailed data center move planning is critical for a seamless transition to colocation services.
  – Start early and focus on cable mapping, infrastructure dependencies, vendor coordination and business continuity requirements.
Challenges and Lessons Learned

• Carefully model current and future technology needs to accurately project costs and space requirements.
  – Important factor in contract negotiations, capacity planning and architecture decisions
Challenges and Lessons Learned

• Engage all IT teams – and impacted business areas – in transition planning, communication and execution activities.
  – This is not just an infrastructure and operations project!
Questions

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