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The Carolinas Chapter

The New Role of the CIO and its Impact on Data Center Operations
From the series in Mission Critical Magazine
Technology Drivers and Indicators....

145 Billion Emails a Day
Technology Drivers and Indicators....

Over 100 hours of video downloaded every minute

20 Family’s drive more internet Traffic today than all of the internet Traffic in 2008 combined
The New Role of the CIO and its Impact on Data Center Operations

Technology Drivers and Indicators....

Metadata, the compiled data about YOU!

90% of the Data today was generated in the last two years (IBM)
Technology Drivers and Indicators....
Technology and Productivity in the New Workplace
Let’s Define Workplace
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What are the Challenges of the New CIO?

- No Longer Strictly Supports IT –
  Gives input to the CTO
- Responsible for New Innovation to Drive Sales
- Each CIO and Industry is Different
- *Driver of “Speed – to – Market Deployment”*
How Does New Technology Affect Today’s Data Center?

1. Every New Application Deployed Within The Data Center Creates Load

2. Every New Application is Reviewed to Determine if it can Go to Cloud or Can be Supported by an Existing Data Center or Collocation Data Center

3. How Fast Can the Application be Deployed – “Speed-to-Market”
What are the CIO Choices?

• Expand Existing Data Center (2-including DR)
• Build New Data Center
• Migrate to Collocation Data Center
• Move Application to Cloud

PLUS...

What is the Fastest?
What is the most Cost Effective?
Expanding or Upgrading Existing Facilities

- Develop New Program – Tier III
- Risk Assessment of Existing Conditions
- Upgrade to Modern PUE
- Upgrade Electrical Capacity (150 watts PSF)
- Upgrade Issues in a Live Facility
Build New Stand Alone Data Center

Site Selection

Source: Eaton Blackout Report, 2015
Build New Stand Alone Data Center
Greenfield

• Securest Method of Operating
• Longest Schedule
• Most Flexibility and Scalability
• Highest Cost
Collocation or Wholesale Data Center

- Fastest Solution
- Collocation, Wholesale or Cloud Services
- Managed Services
- Distributed Cost of 10-15 years

QTS Data Center, Chicago
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Cloud – “The Cloud has Walls”

- Shared Infrastructure
- Complete Outsourcing
- Private vs Hybrid vs Public

Microsoft, Dublin
Evaluating Collocation

Collocation Associated Risks

- Dedicated Racks owned by the User
- Network Security, Layered Network
- MSP provides reboots, and cross connect services
- Shared Infrastructure

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Evaluating Cloud

Cloud Data Center Associated Risk

- No Dedicated Racks owned by the User
- Shared Network
- Operates and stores data as a virtual environment
- Shared Infrastructure

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Definition of Productivity:

“The measurement of efficiency from input to output”
Technology Drivers
And Indicators....

What does Microsoft Think??
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Data Center Operations
Is it Possible to Predict Technology?
Brazil is the number one country within the America’s to utilize Green Power via Hydroelectricity. Over 77% of the countries power supply is generated by Hydroelectricity plants.
New Strategic Deployments

Cloud Sourcing

- Key Market is businesses that are sized between 20-100 people, Small to Mid Market
- Clients are considered at the desk level, not the company level...i.e. 50,000 clients
- Several Collocation companies such as QTS, Zayo and others are offering cloud services
- Amazon, Microsoft, Google, AT&T and others are focused on offering public cloud services
- Some Enterprise Users are shedding certain applications to the Cloud, i.e. email, etc. – Hybrid Cloud
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Case Study

“The Future of XYZ Data Center, Total Cost of Ownership”

• $1B IT Department, Annual Budget

• Remodel vs. Build vs. Colo vs. Cloud
### Case Study: Key Resources Required

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<tr>
<th>Consulting Group</th>
<th>Technology Group</th>
<th>Engineering Group</th>
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<td>• Data Center Development</td>
<td>• Technology Planning</td>
<td>• Tier Evaluations</td>
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<td>• Total Cost of Ownership</td>
<td>• Applications Evaluations</td>
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<td>• Collocation Analysis</td>
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<td>• Engineering Design, Region</td>
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<td>• Real Estate Consulting</td>
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**3000 Man-hours in 45 Days**
### Case Study Process: Step 1

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<th>Prototype Design</th>
<th>Site Evaluations</th>
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<td>Surveys Existing DC</td>
<td>Preferred DC Size</td>
<td>RFP Collocation/Wholesale</td>
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<td>Interviews 22 IT Departments</td>
<td>Identify Regions of Operations</td>
<td>Greenfield Sites</td>
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<td>Identifies Growth</td>
<td>Identifies Tier</td>
<td>9 Regions Nationally</td>
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<td>Evaluates Applications</td>
<td>Identifies Risk</td>
<td>Brownfield Sites</td>
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<td>Review Existing Contracts</td>
<td>Creates Growth Plans</td>
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<td>Validates Future Processing</td>
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<td>Evaluates DR</td>
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<td>Senior Management Buy-In</td>
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3000 Man-hours in 45 Days
Cast Study Process: Step 2

**Report Generation**
- Financial Modeling 184 Options
- Cloud Recommendations
- Migration Strategies
- Disaster Recovery Plan
- Prototype Design
- Associated Risk
- Future Growth Predictions
- TCO Cost, Preferred
- Impact on IT Labor

**Business Justification Statement**
- Business Impact Analysis
- Final Recommendation
- Risk Remediation Plan
- Total Cost of Ownership
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Questions and Answers
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