CoreNet Global Carolinas Chapter
Annual Mega-Event

August 17, 2011
Agenda

• Welcome and Thank You’s
• Chapter Business
• Panelist Presentations
• Q&A
<table>
<thead>
<tr>
<th>Platinum</th>
<th>Gold</th>
<th>Silver</th>
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<tbody>
<tr>
<td>Haworth</td>
<td>Herman Miller</td>
<td>Perkins + Will</td>
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<td>InterfaceFLOR</td>
<td>Knoll</td>
<td>Steelcase</td>
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<td>JE Dunn</td>
<td>Millicare</td>
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<td>Armstrong</td>
<td>Charlotte Regional Partnership</td>
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<td>Capital Broadcasting</td>
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<td>Childress Klein</td>
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<td>Duke Realty</td>
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<td>IA Interior Architects</td>
<td>KDC Real Estate</td>
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<td>Development &amp; Investments</td>
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<td>Nelson Strategies</td>
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Today’s Event Sponsors

Balfour Beatty

In Kind Sponsor

Bank of America
Thank You Programs Committee!

Programs Committee Chair: William Parker-Ciena

- Jon Goldberg, KL Gates
- Tobin Wolverton, CBI
- Sheila Dawes, Bank of America
- Sarah Holmes, BHDP
- Terry Moore, Little
- Charlis Brock, CBI
- Tracy Barnett, BRG
- Chris Turner, Bank of America
- Allan Lane, Nortel
- Emily Walser, Steelcase
- Susan Fertitta, Office Environments
- Alita Webster, Young Office
- Ashley Brown, Young Office
- Bill Robinson, Cushman & Wakefield
- Michael J. Kriston, McDonald York
Thank You for Supporting......

Classroom Central

A 501c3 nonprofit providing school supplies to teachers for distribution to disadvantaged students.

Currently serving 166 area schools.
2011 Remaining Events

- August 25 - Sweat Equity Outing – Classroom Central (Charlotte)
- September 14 – Young Leaders Event (Raleigh)
- September 14 – Networking (Raleigh)
- October 5 – Education Program (Charlotte)
- October 6 – Education Program (Raleigh)
- October 8 – Sweat Equity Outing - Habitat Restore (Charlotte/Raleigh)
- November 6 – 8 – Atlanta Summit
- November 11 – Sweat Equity Outing – Food Bank (Charlotte/Raleigh)
- November 16 – Education Program / Networking / Food Drive (Greenville)
- November 30 – Young Leaders Event (Charlotte)
- December 6 – Education Program / Networking / Toys for Tots (Charlotte)
- December 7 – Education Program / Networking / Toys for Tots (Raleigh)
2012 Board of Directors

Continuing
- Jessica Brown, CBRE
- Tripp Guin, CBRE
- Kevin Jenkins, Turner Construction
- Tony Perez, Bank of America
- Danny Seaton, Teknion
- Koo Stengle, BB&T
- Frank Wiseman, Tandus
- Craig Youst, Red Hat

Returning
- Steve Bodenheimer, Duke Energy

Newly Elected
- Suzanne Jacobs, Time Warner Cable
- Chris Lapata, Steelcase

Senior Advisory Council
- Hunter Fleshood
- Philip Grossberg, CBRE
- Dan Jennings, Areva

Rolling Off: William Parker, Ciena-Thank you for your service!
Moderator
Patrick Donnelly
AIA, LEED AP, MCR.h
BHDP Architecture
Panelists
David Swenson
Senior Vice President
Charlotte Regional Partnership
Panelists
Pete Marin
President
T5 Partners, LLC
Panelists
Kristin Fletcher
Executive Vice President
Cleveland County Economic Development Partnership
Panelists
Stuart Heishman, P.E.
Director
Business Development
Duke Energy
Panelists
Greg Haldeman
Regional Manager
DRP Construction, Inc.
Panelists
Chad Martin, LEED AP
Regional Office Director
Holder Construction
Panelists
Tim Garrison
Senior Vice President
Carolinas Division
Balfour Beatty
Data Centers:
The Carolinas’ Newest Cash Crop

David Swenson
Senior Vice President
Charlotte Regional Partnership
Pete Marin
President
T5 Partners, LLC
Data Center Defined

Generator room

Piping to cooling towers

Chiller room

Electrical switch gear
Data Center Defined

Houses computer & telecommunications equipment so information can be transferred, manipulated, stored and be readily accessible via different networks.

- Essential support for the way we live, work and play
- Must operate 24 / 7 / 365
- Redundant power, cooling infrastructure and communications
Data Center Defined
Data Center Defined

Data Centers are expensive because of engineering and specialized equipment.

Cost to build per square foot:
- Data Centers: $600-1250
- Office: $130-300
- Residential: $75-250
# Types of Data Centers

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Players</th>
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</thead>
<tbody>
<tr>
<td><strong>Enterprise</strong></td>
<td></td>
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<tr>
<td>Single-tenant facility</td>
<td>American Express</td>
</tr>
<tr>
<td>Owned or Leased by operator/user</td>
<td>Microsoft</td>
</tr>
<tr>
<td>Mid-sized to large corporations</td>
<td>T5</td>
</tr>
<tr>
<td><strong>Wholesale</strong></td>
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<tr>
<td>Multi-tenant facility</td>
<td>Digital Realty Trust</td>
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<tr>
<td>Economies of Scale</td>
<td>Dupont Fabros</td>
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<tr>
<td>Dedicated Suite</td>
<td>T5</td>
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<tr>
<td>Significant power requirements</td>
<td></td>
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<tr>
<td><strong>Colocation</strong></td>
<td></td>
</tr>
<tr>
<td>Multi-tenant facility</td>
<td>Equinix</td>
</tr>
<tr>
<td>Shared Data Hall</td>
<td>Telx</td>
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<tr>
<td>Many end users with small footprints</td>
<td>Internap</td>
</tr>
</tbody>
</table>
Demand Drivers – Outpacing Supply

- North America internet traffic to increase at 39% CAGR *
- 2010 mobile traffic 3x greater than entire global internet of 2000 *
- Video traffic will exceed 60% of global IP traffic by 2014 *

* Source: Cisco Visual Networking Index, 2010
• Amount of global information is set to rise 30 fold in the next decade*
• Data requirements are growing at an annual rate of 60%**
• Proliferation of picture, voice & video all reside in data centers

* Source: IDC via CIO.com
** Source: IDC via The Economist
• Demand for data center space is outpacing supply by 3 to 1 *
• By 2012 companies are expected to spend $42bn on cloud computing **
• More data was created in the last three years than the entire human history ***

* Source: Tier1 Research
** Source: IDC
*** Source: Berkeley School of Management
Demand Drivers – Outpacing Supply

Texts vs. Mail
The U.S. Postal Service is on track to lose $6 billion this year, as e-mails and texting reduce mail volumes faster than postage fees can rise.

Source: FORTUNE, June 23, 2011
Demand Drivers – Outpacing Supply

Netflix vs. Blockbuster
Blockbuster hit 4,000 stores in two decades. Then, in 1997, Reed Hastings got charged a $40 late fee on Apollo 13 and founded Netflix (NFLX). The rest is history.

Source: FORTUNE, June 23, 2011
Demand Drivers – Outpacing Supply

Amazon vs. Borders
Amazon almost single-handedly bankrupted the No. 2 bookseller in a decade. Barnes & Noble (BKS) is fighting back with its Nook.

Source: FORTUNE, June 23, 2011
Demand Drivers – Outpacing Supply

iTunes vs. CDs

Source: FORTUNE, June 23, 2011
The world population increased from 3 billion in 1959 to 6 billion by 1999, a doubling that occurred over 40 years. The Census Bureau's latest projections imply that population growth will continue into the 21st century, although more slowly. The world population is projected to grow from 6 billion in 1999 to 9 billion by 2044, an increase of 50 percent that is expected to require 45 years.

Source: U.S. Census Bureau, International Data Base, June 2011 Update.
Current T5 Projects
T5@Kings Mountain

- 147,000 SF Powered Shell, Metro Charlotte
- 280 acre Data Center Park,
- 180 MW Substation, 4.3c/KWH, Transmission Fed
- Two major data centers in the park currently
T5@Atlanta

- 6.0 CMW Wholesale Data Center (expandable to 7.5 CMW)
- 102,000sf, Tier 3 Reserve Redundant Design, 110-140 W/SF
- 5.9c/KWH dual fed power
- Delivers: NOVEMBER 2011
T5@Los Angeles

- 12.95 CMW Wholesale Data Center (expandable to 16.65 CMW)
- Onsite Substation
- 7.9c/KWH, 20% below market, 50% below downtown LA, 4 yrs to construct
- Phase 1: MAY 2012
T5@Dallas

- 18 CMW Wholesale Data Center
- Legacy Business Park, Plano, TX
- 175mph rated shell, purpose built Data Center
- Dual Power Feeds, 7c/KWH
- Phase 1 Delivers: MAY 2012
Kristin Fletcher
Executive Vice President
Cleveland County Economic Development Partnership
WHY DATA CENTERS?

WHY CLEVELAND COUNTY?

• Location, Location, Location
• Reliable & Affordable Power
• Disaster Avoidance
• Necessary Infrastructure
• Access to Existing IT Network
• Access to Education
• Growing & Talented Workforce
• Training Opportunities & Aggressive Incentives
Cleveland County’s Goal = Diversification

Industry Type

- Manufacturer: 60.96%
- Retail: 4.88%
- Other: 12.20%
- Distribution: 2.44%
- Data Center: 2.44%
- Assembly: 2.44%
- Film Production: 7.32%
- Food Processing: 4.88%
- Outdoor Recreation: 2.44%
Analysis of Opportunity

Table 1. Projection of select ICT occupations in the United States

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<tbody>
<tr>
<td>Computer Support Specialists</td>
<td>585,700</td>
<td>643,700</td>
<td>78,000</td>
<td>14.0</td>
<td>23,460</td>
<td>540,500</td>
</tr>
<tr>
<td>Computer Systems Analysts</td>
<td>532,200</td>
<td>640,300</td>
<td>108,100</td>
<td>20.0</td>
<td>22,280</td>
<td>512,720</td>
</tr>
</tbody>
</table>
| Network and Computer Systems
  Administrators                       | 339,500         | 418,400         | 78,900    | 23.0     | 13,550                 | 338,890                              |
| Network Systems and Data
  Communications Analysts             | 292,000         | 447,800         | 155,800   | 53.0     | 20,830                 | 226,080                              |
| Computer and Information
  Systems Managers                    | 293,000         | 342,500         | 49,500    | 17.0     | 9,710                  | 287,210                              |

Table 2. Projection of select ICT occupations in the state of North Carolina

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</thead>
<tbody>
<tr>
<td>Computer Support Specialists</td>
<td>15,850</td>
<td>16,540</td>
<td>2,690</td>
<td>17.0</td>
<td>760</td>
<td>16,770</td>
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<tr>
<td>Computer Systems Analysts</td>
<td>14,900</td>
<td>19,280</td>
<td>4,380</td>
<td>29.4</td>
<td>840</td>
<td>17,620</td>
</tr>
</tbody>
</table>
| Network and Computer Systems
  Administrators                                  | 7,500           | 9,590           | 2,090     | 27.9     | 360                    | 7,990                                |
| Network Systems and Data
  Communications Analysts                        | 7,140           | 10,740          | 3,600     | 50.0     | 510                    | 6,110                                |
| Computer and Information
  Systems Managers                                  | 9,290           | 10,800          | 1,510     | 16.3     | 300                    | 11,040                               |

There are over 650 IT companies located in the Charlotte Region.

There are approximately 25,000 IT workers in the Charlotte USA Region. That equates to one out of every four IT workers are located in North Carolina and South Carolina, and are employed in our region.
Data Centers: The Carolinas’ Newest Cash Crop

TRAINING & EDUCATION

Diploma: Data Center Operations

<table>
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<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credit Hours</th>
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<tr>
<td>CD 101</td>
<td>Introduction to Computers</td>
<td>3</td>
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<tr>
<td>CD 102</td>
<td>Hardware/Software Support</td>
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<tr>
<td>CD 200</td>
<td>Advanced Hardware/Software Support</td>
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<tr>
<td>CD 210</td>
<td>Database Concepts</td>
<td>3</td>
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<tr>
<td>CD 220</td>
<td>Database Applications</td>
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<tr>
<td>CD 310</td>
<td>Networking Basics (Jun-2013)</td>
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<tr>
<td>CD 320</td>
<td>Building Basics (Jun-2013)</td>
<td>3</td>
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<tr>
<td>CD 400</td>
<td>Operating System Concepts</td>
<td>3</td>
</tr>
<tr>
<td>CD 500</td>
<td>Linux/Unix Single User</td>
<td>3</td>
</tr>
<tr>
<td>CD 600</td>
<td>Unix/Linux Admin 1</td>
<td>3</td>
</tr>
<tr>
<td>CD 700</td>
<td>Windows Single User</td>
<td>3</td>
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For more information, contact:
Jonathan Davis
Computer Information Technology Instructor
704-664-1488
jjdavis@clevelandcommunitycollege.edu
www.clevelandcommunitycollege.edu

Cleveland Community College
Building Futures

CURRICULUM
The Data Center Operations curriculum provides students with the knowledge and skills training required for successful employment in a computer data center.

Emphasis is placed on operating systems, advanced hardware and software maintenance and repair, database management, Unix/Linux administration, data center security concepts, securing communications and networking technologies. Students will have the ability to communicate comfortably with people who have limited technical knowledge.

Graduates will qualify for and effectively be able to carry out the daily operations required in computer data center positions.

FACILITIES
At Cleveland Community College, instruction in Computer Information Technology is based on practical experiences. Students study in state-of-the-art equipment they will encounter in their work. We are one of the hands-on colleges in the region.

We are committed to teaching open source software, particularly Linux, and are also a Microsoft IT Academy and Pearson IT Testing Center. A VMware partnership allows us to teach our students about virtualization in a state-of-the-art environment. Cleveland Community College is also a Juniper Networks Certification 550, which allows us to offer even more networking technology.
CLEVELAND COUNTY INCENTIVES

- County property taxes (real and personal) granted back to client over a ten-year period
- Infrastructure improvements
- Reduced water and sewer rates
- Local building and zoning permit fees will be waived for projects
- Waiver of utility connection fees for projects
- Tuition credits for graduate or undergraduate courses provided by Gardner-Webb University
- Guaranteed ten day turnaround on all local permit applications
- Additional incentives provided through Duke Energy
- Cleveland County is a Tier 1 county, thus eligible for maximum state incentive grants
## SUCCESSFUL PROJECTS

<table>
<thead>
<tr>
<th>COMPANY</th>
<th>INVESTMENT</th>
<th>SQUARE FEET</th>
<th>PERMANENT EMPLOYMENT</th>
<th>CONSTRUCTION EMPLOYMENT &amp; DURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wipro Technologies</td>
<td>$150,000,000 (Five Years)</td>
<td>230,000</td>
<td>17</td>
<td>450 (8 months)</td>
</tr>
<tr>
<td>Disney</td>
<td>$200,000,000 (Five Years)</td>
<td>100,000</td>
<td>48</td>
<td>1,000 (14 months)</td>
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<tr>
<td>T5 Powered Shell Building</td>
<td>(New investment could exceed $100,000,000)</td>
<td>150,000</td>
<td>250 (6 months)</td>
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<tr>
<td>T5 Park Development &amp; Grading</td>
<td></td>
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<td>50 (4 months)</td>
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<tr>
<td><strong>TOTALS</strong></td>
<td><strong>$450,000,000</strong></td>
<td></td>
<td><strong>65</strong></td>
<td><strong>1,750</strong></td>
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</tbody>
</table>
Stuart Heishman, P.E.
Director, Business Development
Duke Energy
“POWER” COMMUNICATION

Stuart N. Heishman, P.E.
Director, Business Development
Duke Energy
Did you know....

Data Center Facts

- 15 M servers in US
- 8 B internet devices
- 4 B mobile phones
- $6 B in electric costs

Technology consuming 40% of energy
WHY NC?

- Power
- Momentum
- Incentives
- Low Risk Natural Disasters
- Risk Management – Post 911
- Business Development “Team” Efforts
- T 5 Partners
Power Checklist

- Establish direct communication with Power Company
- Sign a mutual NDA
- Regulated versus Non-regulated environment
- Power rate request
- Availability of Riders
- Dual Feed Capability
- Schedule
- Reliability
- Generation Mix
- “Green” Programs
- Plans for future power consumption
- Account Executive Program
- Utility Real Estate Assets
- Unique Programs
Thank you for your participation!