

Networld+Interop 2004

The Power of Two In Your Data Center

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“The Network Partner You Can Rely OnSM”

Level 3 is a facilities-owned Fortune 500 communications and information services company offering world class services in the US and Europe

- 22,500 route miles
- 88 markets in US and Europe
- 73 data center facilities
- 5 million sf of space under control worldwide



- Data Centers offer Freedom of Choice AND Network Expertise
 - Tier 1 network and design expertise at your doorstep:
 - 2nd largest private IP backbone
 - Ranked 3rd among top wholesale private line providers in Yankee Group survey behind AT&T, MCI
 - Robust carrier-neutral connectivity
 - Average 8-10 alternate carriers in every facility
 - Customers satisfy network needs on their own terms

Assessment – Should the Power of Two Belong to You?

Probability of Impairment

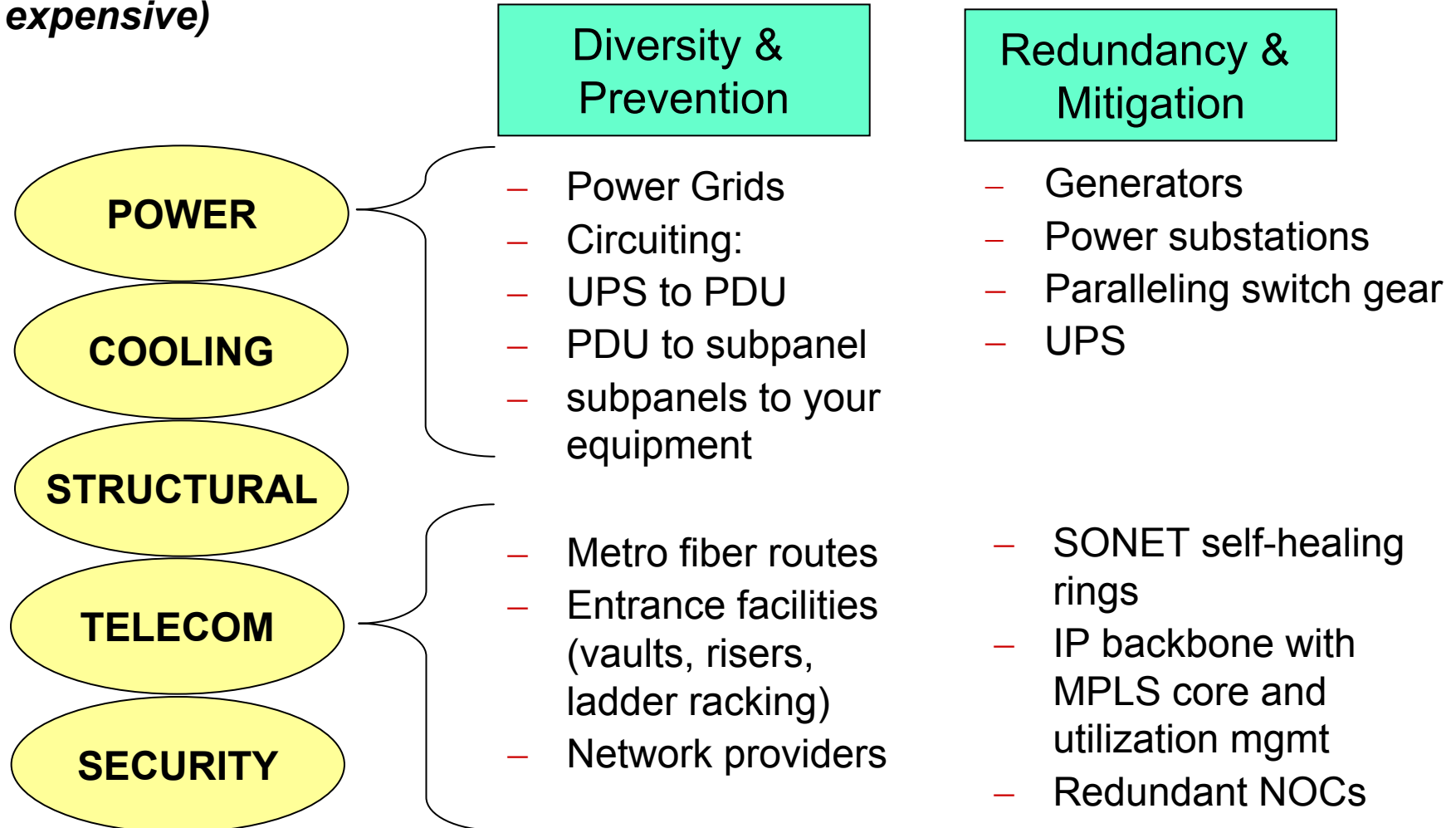
- Event Risk
 - Geography (flood plain? seismic zone? 50th floor?)
 - Neighbors (the interstate? a chemical facility? the Pentagon?)
- Mitigation Preparedness
 - Power/Cooling Infrastructure Redundancy
 - Alternate Power and Water Sources
 - Fire Detection
 - Physical and Logical Security
 - Stress Testing

Business Impact

- Which systems/applications/ data sets are mission critical?
 - E-business
 - CRM support
 - Supply chain mgmt
 - Etc.
- What is impact of impairment?
 - Tangible, e.g. \$\$ transactions per hour
 - Intangible, e.g. customer confidence, regulatory scrutiny, employee productivity

Alternative 1 – Harden Existing Systems/Infrastructure

One choice is to improve predicted uptime of existing assets – but rooting out and eliminating single points of failure is likely exhausting (and expensive)

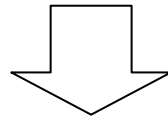


Alternative 2 – Diversification

Diversification is often a more scalable and success-based means to decrease the probability of application downtime and revenue loss

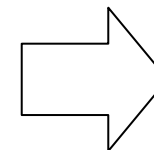
Step 1: Determine Availability of Existing Facility

- Infrastructure – 4% of outage occurrences but 25% of downtime*
- Equipment, Applications – 96% of outage occurrences



Step 2: Calculate Minutes of Probable Downtime Over One Year

Overall Availability	One Facility	Redundant Facility	Uptime Recovered with Diversity
99.000%	5,256.00	52.56	5,203.44
99.900%	525.60	0.53	525.07
99.990%	52.56	0.01	52.55
99.999%	5.26	0.00	5.26



Step 3: Assess Value

Amazon Revenues **
\$ 60,754,451
\$ 6,130,676
\$ 613,620
\$ 61,368

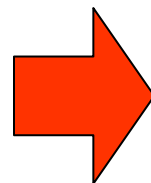
*As cited by *The Uptime Institute*

**Source: Amazon press release, based on 1Q04 revenues.

Conclusions and Thoughts

Yesterday....	Today....
IT systems were part of corporate overhead	IT systems are direct revenue drivers
Focus on recovery in event of failure	Focus on not failing
Few companies without an IT business model used IT systems to drive competitive advantage	IT strategy is primary weapon in competitive marketplace <ul style="list-style-type: none">• 60% of Level 3 customers (non-carriers) already purchase services in more than one Level 3 facility

For More
Information and
Discussion, Please
Contact Me



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