

Network Microdesigns Corporation
Lifebase® Advisory Group Meeting
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GBC/NMC Disaster Recovery Plan

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Disaster Recovery Planning

- Flood of 2008 accelerated move to a “paperless” workplace, with nearly all documentation/correspondence managed via email or PDF
- Development of structured office evacuation protocol began in Spring 2009, as did purchase of 1-hour/500-degree fire safe (primarily for interim back-up tape storage)
- While off-site data storage/tape-back-up has been in place for years, in Fall 2009 formal planning for parallel off-site network structure began
- Goal was to provide seamless transition in event of localized disaster (fire, flood, prolonged power outage) to off-site location with minimal downtime or service interruption – **full implementation: May 2010**



Strategic Partnerships with Dynamic Broadband and Involta

- Dynamic Broadband has been our data/internet service provider since 2007, and recently unveiled more expanded connectivity capabilities in wake of Flood recovery/rebuilding
- However, proximity (downtown Cedar Rapids) was a concern
- Involta has been a fixture in Cedar Rapids since 2006, opening a new 20,000 square foot data center facility in Marion (20 minutes northeast of Cedar Rapids) in 2009
- Partnerships with (and between) Dynamic Broadband and Involta enabled more extensive and safe transfer of data to newly purchased units, stored at a secured off-site location outside downtown area



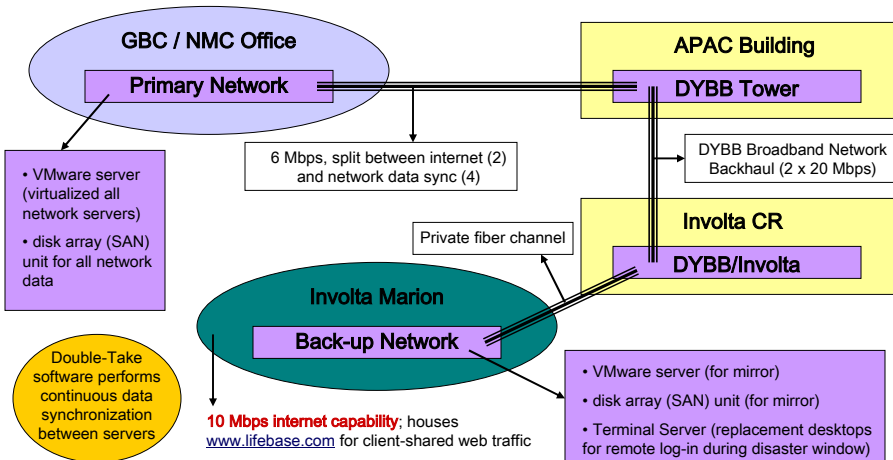
Design and Equipment Enhancement

- December 2009, entered into broad-based planning discussions with Involta systems engineers to lay out design ideas which would meet desired levels of **redundancy, efficiency and security**
- Able to repurpose many existing network hardware components, many of which still early in their life cycles (acquired since Flood), with minimal additional equipment purchases
- Virtualization and synchronization software – coupled with advancements to connectivity networks of our strategic partners – enabled for increased speed and efficiency of data mirroring from our existing network location

Disaster Event Example: Prolonged Power Outage

- Shared-server clients would be unaffected, as web traffic continues unabated on dedicated servers housed at generator-equipped Involta complex
- Automated data back-up performed concurrent with workday, such that Involta-housed virtual servers maintain nearly real-time duplication of all work-product
- While GBC/NMC downtown office maintains short-term battery back-up capabilities on site, in a prolonged event, its employees will log in remotely to the Involta-housed terminal server
- When power has been restored, interim work product will be transferred back to downtown location network servers

New Co-location Structure





Improved Performance and Security

- We continue to provide our shared-server clients un- or minimally interrupted services in the event of local disaster event
- Service enhancement opportunity due to 10Mbps connection speeds offered by Involta's new data center/structure
- Off-site back-up storage location – and better transfer capabilities to and from it – allow for improvement in the areas of security, design redundancy and sector/power-grid diversification
- Investment will provide immediate benefits because of improved connection speeds, back-up efficiency, and reduced potential for interruption/downtime – whether disturbance slight or catastrophic