



# Dude Solutions Business Continuity Overview



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# Dude Solutions Business Continuity Overview

## Overview

As the industry's leading provider of Software as a Service (SaaS) operations management applications, Dude Solutions is dedicated to integrating state-of-the-art infrastructure and technology in our customer-focused solutions. As part of that commitment, Dude Solutions has implemented disaster recovery and business continuity plans to ensure our customers experience consistent delivery of their crucial online services.

Dude Solutions' applications are hosted on a virtualized infrastructure that provides high availability (HA) through the use of virtualization, load balancing and clustering technologies. This HA application infrastructure is co-located in a commercial data center (TierPoint) located in Research Triangle Park, NC with a redundant TierPoint disaster recovery facility in Chicago, IL.

Both the primary and the disaster recovery data centers are administered with industry standard best practices (based on the ISO/IEC 27001:2013 framework). The data centers undergo annual SSA16 type II SOC-1 and SOC-2 control audits as well as PCI-DSS certification.

This document outlines the strategies that Dude Solutions uses to prevent interruptions in our online services and business operations.

## Primary and Disaster Recovery Data Centers

Dude Solutions' primary and disaster recovery production systems are hosted in commercial data centers providing the following high-availability features:

- Dual A and B side power feeds carried all the way through to the redundant server power supplies
- Multiple Computer Room Air Handler (CRAH) systems
- Multi-zone fire detection above and below 24" raised floor
- Incipient fire detection system
- Dry pipe pre-action fire suppression system
- Automatic failover to battery UPS
- Diesel generator backup with large capacity onsite fuel storage
- Fuel delivery contracts with multiple vendors
- Fault tolerance and redundancy of all components
- Multiple high capacity internet data paths and providers
- 24x7x365 staffing
- Enterprise infrastructure and security monitoring system – staffed 24x7
- Communication to local law enforcement and fire departments
- In-house systems knowledge and supervision



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The disaster recovery (DR) data center is located in Chicago, IL > 600 miles from the primary data center in Research Triangle Park, NC. The DR site operates in a warm standby mode. DR site servers and infrastructure are configured and available at all times. Production database backups to the disaster recovery site occur on a nightly basis. The success/failure of these backup jobs is monitored. Infrastructure team members address failures immediately upon notification. Additional offsite data backups and archives are stored in Amazon's Northern Virginia S3 and Glacier services.

The features outlined in the following sections apply to both the primary and the DR data centers.

## Network Infrastructure

The TierPoint network was built to meet or exceed commercial telecommunications standards for availability, integrity and confidentiality. It incorporates redundancy to ensure reliable connectivity and maximum uptime with no single-point data transmission bottlenecks to or from the data center. Network features include:

- Redundant paths for connectivity to the internet and other TierPoint locations
- Redundant carriers per location
- Dynamic, performance optimized routing via automated latency monitoring
- Burstable services to accommodate unforeseen or seasonal demand

## Emergency Processes

All TierPoint data centers have tested storm and emergency preparedness plans and multi-faceted recovery plans in place to help minimize service disruptions and ensure continued operations.

## Power and Cooling Systems

### Electrical Specifications

- Redundant utility feeds (from single power grid)
- Redundant main switch panels
- Multiple Uninterruptible Power Supplies (UPSs)
- Each UPS feeds through redundant cables into redundant Power Distribution Units (PDUs)
- Each PDU distributes power to 'A' and 'B' side power strips in each rack

### Diesel Generators

- In case of an outage, the generator will automatically start and begin supplying power to the data center
- Onsite 7,600 gallon diesel fuel capacity
- Multiple contracts with fuel delivery companies
- Multiple HVAC units



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## Advanced Fire Detection and Suppression System

- Very Early Smoke Detection Apparatus (VESDA) early fire warning system
- Heat and smoke detectors monitored in the Network Operations Center (NOC)
- Fire departments dispatch from NOC
- Data center staff is fully trained to deal with a fire situation
- Dry Pipe/Gas dual-action fire suppression system

## Building Structure

- Building is rated to withstand hurricane force winds
- 24 inch raised floor provides conditioned air from below to push hot air up for more efficient and effective cooling of computer equipment
- “Hot aisle, cool aisle” configuration of cabinets ensures that hot cabinet exhaust from one row is not directed into the cabinet intake of the next row
- Building management system with onsite monitoring and control of all electrical, HVAC and other mechanical systems

## Building Security

- Biometric scanners for access to server areas
- 24-hour physical security monitoring
- Pan-tilt-zoom cameras watch all perimeter areas
- Door entrance to data center requires a badge to get in and a badge to get out
- CCTV coverage and recording for every door, aisle, cage, NOC and other secure support rooms

## Hardware, Applications and Data

### Hardware Redundancy

All Dude Solutions services are maintained on a highly redundant virtual platform. Each tier of the application has multiple servers in either an active/active or active/passive configuration based on architectural needs and industry standards.

The firewalls are configured in an active/passive configuration. Network packets are routed to the active firewall. In the event of a failure on the active firewall, network traffic is dynamically rerouted through the passive firewall.



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Storage Array Networks (SANs) provide highly redundant storage for critical data. The SAN has dual storage processors and RAID data drive configurations to ensure continuous operations. Servers are connected to the SAN using redundant fiber channel cards.

The host servers provide high levels of internal redundancy and include the following features:

- Redundant, hot-swappable power supplies
- RAID Controllers, redundancy and hot swapping of hard drives
- Redundant NICs for dual-homing
- 6-hour onsite vendor support contracts

## Application Redundancy

A clustered web and application server strategy is used to protect the services that Dude Solutions provides. The clusters are configured based on architectural and industry best standards to provide the continuous service in the event of a sub-system component failure.

Web and application servers are in an active/active configuration. Web traffic is load balanced between all web servers by an F5 Big-IP load balancer. The failure of any web server is detected by the F5. The F5 disables the failed server and web traffic is automatically rerouted to the remaining server nodes. This process is transparent to the end user.

## Data Redundancy

The database servers are in an active/passive configuration. Database requests are routed to the active database server. In the event of a failure on the active database server, the passive server is automatically brought online and takes over active database responsibilities.

## Business Operations

### Facility

Dude Solutions' main facility is in Cary, North Carolina. Located near Research Triangle Park, Cary has excellent access to transportation facilities and emergency services. The office is located within the same power grid as a regional medical center. In the event of a power outage, restoration of service to this grid is a utility priority.

Dude Solutions' Cary facility is a modern four-story office building. A full-time receptionist monitors all access at the main entrance lobby. Entrance to areas other than the main entrance lobby are controlled by locked doors with card readers. The building and main lobby doors are secured and require badge access outside of business hours.



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The corporate facility server room is located in a locked area with limited access and CCTV surveillance. Backup diesel generator power is provided for the server room.

Server room power is routed through a UPS rack. The UPS will provide approximately one hour of server room operation in the event of a power outage. This is sufficient to allow for an orderly shutdown of equipment.

## Services and Communications

Dude Solutions' primary day-to-day business support applications are either SaaS-based or located in one of our production data centers. The applications that remain in the Cary facility server room are primarily supporting applications with low impact to immediate business operations.

In the event of a catastrophe (fire, hurricane, etc.) that renders the Cary facility unusable for an extended period, Dude Solutions will implement our business recovery plan. This plan calls for:

- Accounting for and assuring the safety of all Dude Solutions employees
- Communication to all employees of the initiation of the business recovery plan
- Business operations resumed from remote locations

## Review and Testing

Dude Solutions' business continuity plan is reviewed on an annual basis. Disaster recovery drills are conducted each quarter. This ensures that the disaster recovery processes are working and that disaster recovery equipment is being maintained. It also serves to keep team recovery skills current, allowing for a quicker response in the event of a true disaster. Drills typically run for six hours or less. Each application and server is tested during the drill for functionality. Results of the drill are reported to senior management.

## Plan Activation and Notification

A disaster will be declared under the following conditions:

- Primary systems are shut down with recovery time not determinable after 24 hours of downtime during business hours
- If expected recovery time for any critical component exceeds 48 hours

Disaster declaration decision will be made by the DR Committee. The committee consists of Dude Solutions' Senior Managers and is chaired by the CTO.

After a disaster has been declared, the DR Committee, assisted by the DR teams, will begin notification of Dude Solutions' employees and customers.



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- Employee notification will be via the Dude Solutions call tree
- Customer notification will be via Customer Services contact lists on Salesforce
- Communication methods will include email, phone and website

## Dude Solutions Customer Commitment

Dude Solutions is taking every precaution to ensure our customer base experiences optimal delivery of our on-demand solutions. The proactive measures discussed in this document are exemplary of the Dude Solutions approach. If you have any questions regarding Dude Solutions' business continuity plan, please contact your Account Representative.