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## DSCI Business Continuity Plan Executive Summary

Wikipedia describes Business Continuity Planning as “an interdisciplinary peer mentoring methodology used to create and validate a practiced logistical plan for how an organization will recover and restore partially or completely interrupted critical functions within a predetermined time after a disaster or extended disruption.”<sup>(1)</sup>

Business Continuity Planning became front page news when companies worldwide realized they were unprepared for issues related to Y2K. However, it wasn’t until the terrorist attacks of September 11 that the full impact of a major disaster was felt by a large segment of business. Suddenly, business continuity planning became a management priority for both small and large organizations. For a regulated industry such as telecommunications, business continuity planning is essential since the telecom’s operations are intrinsically interwoven with those of its customers.

DSCI Corporation developed a Business Continuity Plan (BCP) that is both reactive to potential disaster situations and proactive in considering and implementing preventive measures to reduce or eliminate service outages. In the event of a natural or manmade disaster, the DSCI plan includes the information necessary to alert members of the BCP team, order replacement equipment and configure, and contact repair and NOC centers to open tickets on backbone circuits.

### Network Outage Categorization

DSCI’s Business Continuity Plan details an escalating outage categorization structure based upon the number of customers affected by the outage. Details in the BCP list the equipment which could fail resulting in an outage as well as repair steps for resolution and estimated recovery times. Categorizations include:

Outage Category	Number Customers Affected	Estimated Repair Time
Minor Equipment Failure	4 or fewer customers	2-6 hours
Minor Circuit Failure	Single customer or single voice trunk	2-8 hours
Major Equipment Failure	Less than 100 customers	6-36 hours
Major Circuit Failure	Less than 100 customers	2-12 hours
Critical Equipment Failure	Over 100 customers, but less than 50% of on-net customers	6-36 hours
Catastrophic System Failure	50-100% of customers for affected service	6-36+ hours



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The Expected Repair Time takes into account:

- Time to identify and report the failure;
- Time to isolate and troubleshoot;
- Time to acquire replacement equipment and configure, if required;
- Time to dispatch vendor or DSCI Field Tech to repair;
- Time to install or fix the problem;
- Time to follow up with the customer.

Variability in the Expected Repair Time is a result of, for example, how quickly multiple reported problems are identified as systemic, time of day a problem occurs, or the location of spare equipment.

### **Network Management**

DSCI's network consists of two overlapping topologies which support data and voice services. Various types of equipment and backhaul services are used to inter-connect facilities and collocations together. The BCP provides complete details on all circuits and collocation facilities. Escalation procedures and contact details for each circuit vendor are included in the document.

### **Equipment Inventory**

Spare equipment is a key component in the BCP with spares categorized as cold, warm or hot. Cold spares are maintained on the shelf and must be installed and configured prior to use. Warm spares are pre-positioned with power on and can be configured quickly when needed. Hot spares are pre-positioned, pre-provisioned, and powered up. Hot spares are typically the failover member of a high-availability system.

A complete list of spares is available in the DSCI online inventory and includes both equipment on-site in the Manchester and Lexington offices as well as the equipment currently onboard the DSCI service technicians' vans. The BCP also lists multiple vendors from which equipment can be ordered and shipped for 24-hour turnaround.

In addition to an inventory of spares to replace failed equipment in DSCI's network, a certain amount of equipment is kept on-hand to support customers in the case of a disaster at a customer site.

### **Device Configuration Management**

Device configurations are maintained for each device in the DSCI voice and data network in order that replacement devices can be brought online quickly and



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accurately. Configurations are backed up on a regular basis through automated processes. Certain customer device configurations are also included in automated backup operations. DSCI's servers also back up every day on an automated schedule. In addition, device restoration procedures are documented for each device as part of the BCP. DSCI partners with an outside firm for providing off-site backup of critical corporate and network information.

### **Testing the Plan**

The BCP team selected a cross-section of real-life situations, some of which had actually occurred, to test the effectiveness of the plan. They focused on problem identification through trouble isolation procedures and classification of severity based upon number of customers affected. The path to resolution for each scenario was then detailed and verified. The BCP provided a workable action plan for each scenario, and, in all cases, testing verified the plan. Testing also provided an opportunity to improve upon the plan in a proactive manner. Analysis of the test scenarios suggested various ways that time to resolution could be improved. This has led to DSCI adding additional inventory to its on-shelf supplies and in opening an additional collocation site in Waltham, MA.

### **Maintaining the BCP**

Maintaining the BCP requires that the plan be considered a "dynamic" document which must evolve as company operations or anticipated threats change. Much of the actual data included in the BCP does not reside in the plan itself, but instead is housed on a variety of servers which are updated continuously, assuring that data is current. (The plan provides links to these online documents.) Although the BCP lists members of the problem response team (with various contact numbers for each), cross-training of DSCI staff ensures that the absence of primary team members will never impact the effective handling of a problem. The BCP is scheduled for an annual review, but would be reviewed more often should significant changes in the network or business environment make it advisable.

<sup>(1)</sup> [http://en.wikipedia.org/wiki/Business\\_continuity\\_planning](http://en.wikipedia.org/wiki/Business_continuity_planning)