Plastica Ltd

IT Disaster Recovery Plan (DRP)

Date: 18/01/24
Version: 3
HS&E 23

Notes:

Plan has been revised due to the removal of Microsoft Dynamics CRM

Contents

1.0 Plan and Related Business Processes

Business Process	Feature	Relevant Technical Components
Domain Controller	*AD, DNS, DHCP*	• Windows Server 2012 R2
ERP System	*Dynamics AX 2012*	• SQL Database
RF Picking	*RF Smart*	• SQL Database • IIS Smart Console Interface • Wi-Fi Infrastructure • Mobile Scanners
Business Reporting	*Analysis Services*	• SQL Database • Enterprise Portal
Telecommunications	*3CX*	• 3CX Server • ISDN • VoIP • Fax
Electronic Communications	*Email*	• Exchange
Printing	*Print Equipment*	• Production Print Machine • Fiery Server
Ecommerce	*Magento*	• Webserver
WAN	*Internet*	• Fibre • Firewall
LAN	*Network Infrastructure*	• Network Switches • Cat6 • Fibre • Wi-Fi Infrastructure
Storage	*User Files*	• NAS Devices

2.0 Purpose and Objective

PLASTICA developed this disaster recovery plan (DRP) to be used in the event of a significant disruption to the features listed in the table above. The goal of this plan is to outline the key recovery steps to be performed during and after a disruption to return to normal operations as soon as possible.

Scope

The scope of this DRP document addresses technical recovery only in the event of a significant disruption. The intent of the DRP is to be used in conjunction with the business continuity plan (BCP) PLASTICA has. A DRP is a subset of the overall recovery process contained in the BCP. Plans for the recovery of people, infrastructure, and internal and external dependencies not directly relevant to the technical recovery outlined herein are included in the Business Continuity Plan and/or the Corporate Incident Response and Incident Management plans PLASTICA has in place.

This disaster recovery plan provides:

- Guidelines for **determining plan activation**;
- Technical **response** and recovery strategy;
- Guidelines for **recovery procedures**;
- **Rollback procedures** that will be implemented to return to standard operating state;
- **Checklists** outlining considerations for escalation, incident management, and plan activation.

The specific objectives of this disaster recovery plan are to:

- Immediately mobilise a core group of leaders to assess the technical ramifications of a situation;

- Set technical priorities for the recovery team during the recovery period;
- Minimise the impact of the disruption to the impacted features and business groups;
- Stage the restoration of operations to full processing capabilities;
- Enable rollback operations once the disruption has been resolved if determined appropriate by the recovery team.

Within the recovery procedures there are significant dependencies between and supporting technical groups within and outside PLASTICA. This plan is designed to identify the steps that are expected to take to coordinate with other groups / vendors to enable their own recovery. This plan is not intended to outline all the steps or recovery procedures that other departments need to take in the event of a disruption, or in the recovery from a disruption

3.0 Technical Overview

This section outlines the current IT infrastructure and processes that have been designed to minimise the risk of this plan being required and reduce the downtime and loss of any data.

Domain Controller – We have two onsite domain controllers replicating DC1 to DC2 in the event of DC1 going down, DC2 would take over. They are backed up every night to Amazon AWS storage, bare metal recovery is in operation and a daily automatic recovery to Amazon EC2 is in operation.

Microsoft Dynamics AX 2012 – The mission critical parts of Dynamics AX are the SQL databases, the servers running SQL Server, AOS Server, Enterprise Portal are not in themselves critical. Providing a copy of the databases are available a complete new environment can be built from scratch within 6 hours.

RAID10 is used on the main SQL Server and RAID5 on all other servers used for AX, Plastica has two AOS servers which provide access to clients. If one AOS server is lost, users on that server would switch to the other server.

The main SQL server that holds the AX data is backed up every 15 minutes and transferred to Amazon AWS, a full backup takes place just after 6pm every weekday. If the server was lost we would lose a maximum of 15 minutes worth of data.

We have multiple on site AX environments that are available for failover should the server be lost in different readiness states.

The backup AX environment is used for development work but can be brought up to a live environment in under 3 hours.

RF Smart – Is independent of the AOS servers, by default it uses AOS2 to communicate to AX but can be changed to AOS1 in less than a minute. To update the RF Scanners to point at the replacement AOS would take under 10 minutes. A failover server is ready onsite to be brought online if required.

Telecommunications – 3CX is a software based system and can be run on a basic Windows PC, we utilise VoIP for calls, it uses its own route to communicate with our VoIP line provider. In the event they have an issue we have stand by lines with another supplier to make outgoing calls. If a long period of down time was expected incoming numbers would have to be rerouted to other providers. Failing that numbers can be diverted to company mobiles.

Internet – We have one 200MB bearer connected to our Fibre provider with a fibre ADSL failover if our main one goes down the second interface can be setup. If this fails we have 5G failover on our firewall and with a router onsite if needed.

Network – We utilise Cat6, 1G & 10G Fibre and Wi-Fi across the site, since the network upgrade in 2015 all but the warehouse and water treatment is provided its network directly from the COMMS room situated in the finance department including the power for telephones and Wi-Fi access points. The main switch is a stack of multiple switches which allows for failover of individual switches without impacting the network.

The warehouse due to its distance from the COMMS room has its own switches connected to the COMMS room via fibre. There is also two independent comms cabinets in the warehouse, one is situated in the customer collections area and has two 10G fibre links to the COMMS room.

There is a second comms cabinet situated in spares that has two 1G fibre links to the COMMS room, this is currently used for the CCTV but if the main link in customer collections was down users can be moved to this cabinet.

Power – The COMMS room and selected areas on the business are covered by UPS, the servers are provided power from two UPS devices and can provide power for up to 2 hours. These are tested as part of our yearly emergency lighting test. The cabinets in the warehouse have UPS devices and can power the Wi-Fi for up to 2 hours.

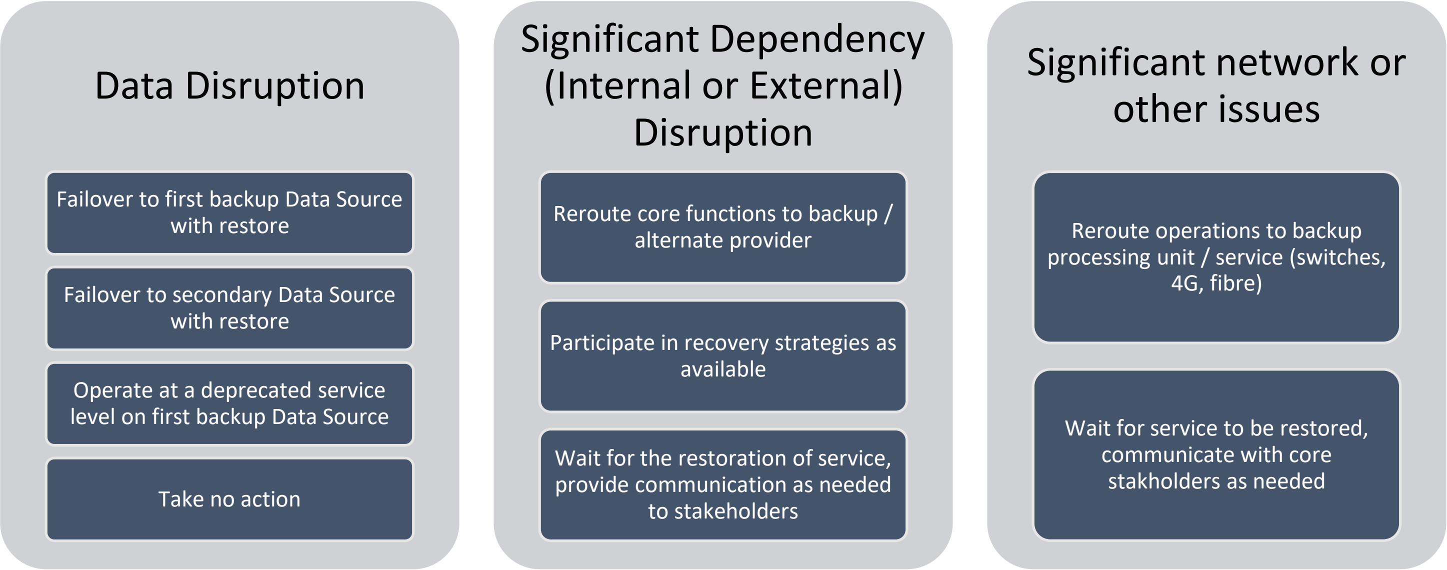
Certain PC's around the company also have UPS that allow us to continue to function during a power cut, the Finance department is the designated control room due to its proximity to the COMMS room and PC's can run for around 1 hour. PC's in IT, Customer Services and Production are also covered by UPS and can run for around 30 minutes. If a power cut extended beyond this point laptops can be used offering over 3 hours of use.

File Storage – Files are stored in multiple locations including two NAS boxes and OneDrive, the onsite NAS boxes provide snapshots that enable recovery of deleted files. In addition to this they are backed up to Amazon AWS every night, we hold multiple copies of each file. If a user accidentally overwrites a file they can be recovered. In addition to this files are kept for 365 days after they have been deleted locally.

Ecommerce – All ecommerce sites are backed up to Amazon AWS overnight and can be restored within a couple of hours. In April 2016 we launched our new ecommerce sites, whilst these talk to Dynamics AX and orders are automatically entered in to our system the sites can function without a connection to AX. This allows us to continue to take orders if AX was unavailable including customer services entering orders in to the backend of the website and having access to customer specific pricing.

4.0 Disaster Recovery Strategies

The overall DR strategy of Plastica is summarised in the table below. These scenarios and strategies are consistent across the technical systems



Data Disruption

- Failover to first backup Data Source with restore
- Failover to secondary Data Source with restore
- Operate at a deprecated service level on first backup Data Source
- Take no action

Significant Dependency (Internal or External) Disruption

- Reroute core functions to backup / alternate provider
- Participate in recovery strategies as available
- Wait for the restoration of service, provide communication as needed to stakeholders

Significant network or other issues

- Reroute operations to backup processing unit / service (switches, 4G, fibre)
- Wait for service to be restored, communicate with core stakholders as needed

5.0 Disaster Recovery Core Team

The disaster recovery core team is made up of all IT personnel including website, the directors and the managers or their understudy from Customer Services, Sales, Finance, Purchasing, Warehouse and Production

6.0 Disaster Recovery Procedures

A disaster recovery event can be broken out into three phases, the response, the resumption, and the restoration. These phases are also managed in parallel with any corresponding business continuity recovery procedures summarised in the business continuity plan.

Response Phase: The immediate actions following a significant event.

- On call personnel contacted
- Decision made around recovery strategies to be taken
- Full recovery team identified

Resumption Phase: Activities necessary to resume services after team has been notified.

- Recovery procedures implemented
- Coordination with other departments executed as needed

Restoration Phase: Tasks taken to restore service to previous levels.

- Rollback procedures implemented
- Operations restored

7.0 Disaster Scenario – Loss of Database

In the event of the loss of the complete AX SQL database server due to hardware failure or user the following plan will be followed:

- Core team contacted and advised on situation
- IT will make the decision on which onsite backup system will be used
- Customer Services access ecommerce backend to enable the continuation of taking orders
- IT will start the data restore to backup system and advise on estimated time
- Once restore is complete IT will confirm
- RF Smart and Scanners reconfigured
- Users updated will new AX client configuration to allow access to new system
- Orders taken on website updated in AX
- IT liaise with vendors for replacing hardware if required

8.0 Disaster Scenario – Loss of Power

In the event of loss of Power the following procedures will be followed:

- Contact 105 to establish what the issue is
- If power cut is estimated to be for more than 2 hours and they are unable to re-route power to the premise IT will start to shut down non-critical services
- Core team contacted and advised on situation, team will decide on next course of action.
- If alternative power source is required, IT will use list of contacts below

- Once a generator has been sourced core team will be advised on estimated time for it to be onsite
- Once generator is onsite, core team will be advised of estimated time for full system to be available

To run the COMMS room a generator of 8-10kva is desirable, diesel will also need to be collected from the nearest petrol station:

Speedy Stores ideal equipment **Silenced Generator Diesel 10kva Product Code: 14/0085-h** (not likely to be in stock):

0.98 miles away
HASTINGS
Unit B & D Roebuck Centre, Roebuck Street, The Bourne, Hastings, East Sussex, TN34 3BB
01424 434 711

23.45 miles away
ASHFORD
Unit 10 - 11, Heron Business Centre, Henwood Industrial Estate, Ashford, Kent, TN24 8DH
01233 663 111

23.6 miles away
TUNBRIDGE WELLS
Unit 1 Kingstanding Business Park, Kingstanding Way, Tunbridge Wells, Kent, TN2 3UP
01892 616 318

29.52 miles away
MAIDSTONE SUPERSTORE
Unit 8, Euroway Trade Park, Wood Close, Quarry Wood, Aylesford, Kent, ME20 7UB
01622 791001

33.17 miles away
BRIGHTON SUPERSTORE
56 Newtown Road, Hove, Brighton, East Sussex, BN3 7BA
01273 674 700

HSS Hire ideal equipment **Silenced Generator Diesel 10kva Product Code: 41310**:

13.2 miles away
EASTBOURNE
403 Seaside, Eastbourne, BN22 7RT
01323 459418

21.3 miles away
UCKFIELD
Unit 1 The Enterprise Centre, Bell Lane, Uckfield, TN22 1QZ
01825 829354

23.1 miles away
ASHFORD
Mace Lane Ind. Est, Ashford, TN24 8PE
01232 210012

86.8 miles away
HEATHROW (Open 24 hours) except bank holidays
Unit1, The Heathrow Estate, Silver Jubilee Way, Heathrow, TW4 6NF
0208 936 7310

9.0 Disaster Scenario - Flood

In the event of a flood, essential IT equipment and server room is located on the 1st Floor and comms cabinets situated around the building are over 1m off the ground. There is an internal flooding risk from roof and drain pipes.

- Core team contacted and advised on situation
- Decision made if any further action is required by IT to safe guard equipment

10. Disaster Scenario – Fire Contained to Warehouse

In the event of a fire that is contained within the warehouse the core IT equipment and functionality of its system will continue.

- Core team contacted and advised on situation
- IT will work alongside the main disaster team to plan the restoration of warehousing, picking and despatch

11.0 Disaster Scenario – Fire Contained to Manufacturing Areas

In the event of a fire that is contained within the manufacturing areas in bay 1 and 2 the core IT equipment and functionality of its system will continue. The telecommunications links enter the building in the canteen and fibre cables to the warehouse runs through these areas and could be affected

- Core team contacted and advised on situation
- IT will assess impact on telecommunications and fibre links
- If warehouse has been cut off from main infrastructure through loss of fibre connection we will revert to picking via paper pick notes.
- If telecommunication links have been cut all calls will be diverted to mobiles, 4G broadband will be used to provide internet access
- IT will liaise with BT Openreach for restoral of telecommunication services

12.0 Disaster Scenario – Fire Contained to Office Areas

In the event of a fire that is contained within office block – estimated downtime 24 hours, 15 minutes of data loss

- Core team contacted and advised on situation
- IT will assess impact on COMMS room and equipment
- If COMMS room is no longer available a temporary COMMS room can be constructed in the canteen This location is ideal due to proximity to incoming telecommunication links, Cat6 caballing and power.
- BT Openreach will need to be contacted to terminate services at new location
- Existing network caballing will need to be terminated in canteen
- If servers have been lost, data will be restored to backup servers
- IT will order required equipment from vendors
- Orders can continue to be taken on the website

13.0 Disaster Scenario – Fire - Total Loss of Perimeter House Site

In the event of a fire consumes the whole of the Perimeter House Site – cloud environment brought online and AX data restored – system available within 4 hours with maximum data loss of 15 minutes

- Core team contacted and advised on situation
- IT will implement Amazon EC2 cloud environment
- Telecommunications will be routed to mobiles
- IT will await further information regarding temporary site plan
- Website will continue to function and is available

14.0 Disaster Scenario – Loss of Website

In the event of the loss of one of the company's ecommerce sites through hardware failure

- Core team contacted and advised on situation
- IT will start restore process of website to backup webserver
- IT will advise core team when site is up and running