

Integral Business Continuity Plan

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Version 3.0

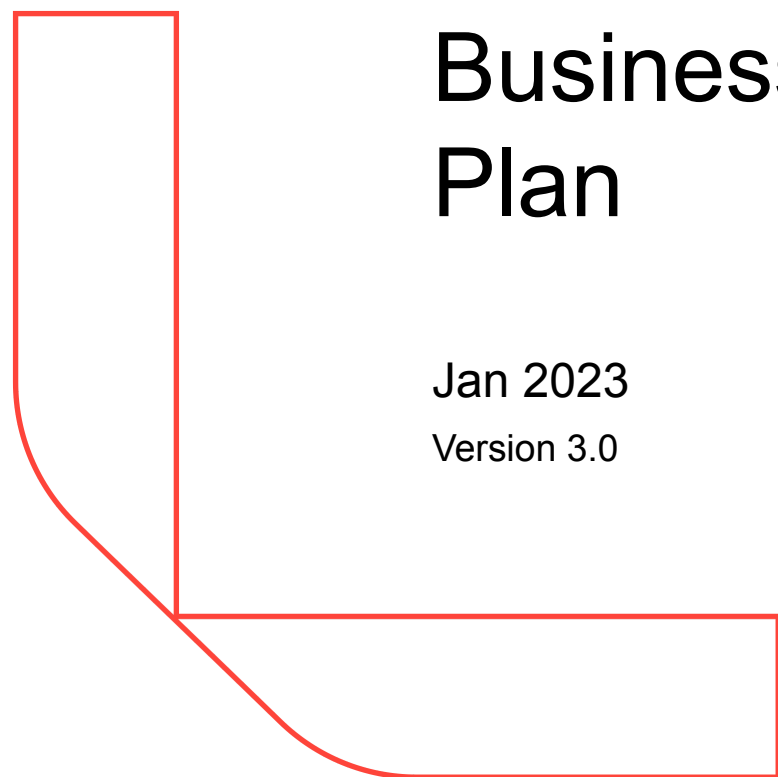


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1 Revisions

Version	Primary Author(s)	Description of Version	Date
3.0	Seeja Jiju	Updating the new logo and template	25-Jan-2023
2.9	Seeja Jiju	Annual update	21-June-2022
2.8	Seeja Jiju, Debbie Woodward	Annex B added and annual review	10-June-2021
2.7	Seeja Jiju	Annual update and review	15-Apr-2021
2.6	Seeja Jiju	Annual update	11-Mar-2020
2.5	Rodrigo Balan	Annual update	21-May-2019
2.4	Sunil Makhijani, Paul Calhoun	Annual update	15-Sep-2018
2.3	Bernhard Brandmair	Annual update	3-Mar-2017
2.2	Bernhard Brandmair	Updated contact list	10-May-2016
2.1	Bernhard Brandmair	Updated after internal review	23-Feb-2016
2	Bernhard Brandmair	Annual update	8-Feb-2016
1.1	Debbie Woodward	Annual update	1-Jan-2015
1	Toshi Tazawa	Initial Version	1-Dec-2013

2 Purpose

The purpose of this Business Continuity and Disaster Recovery Plan is to establish Integral policies and procedures in order to safeguard business operations in the event of an emergency or significant business disruption caused by factors beyond the control of Integral and to set forth a plan of action to respond to potential business disruptions. The plan is designed to enable Integral to continue operating and to reestablish operations following a service disruption with minimal disruption to market participants.

The Business Continuity and Disaster Recovery Plan identifies guidelines and necessary steps to help Integral prevent disruption to Integral business and to continue essential business processes should an incident occur.

3 Maintenance, Training & Testing

The plan shall be reviewed and tested by the Director of Operations and other appropriate personnel on an annual basis and updated as necessary to respond to material changes in operations, compliance requirements and risk mitigation strategies. Integral shall distribute and explain the plan to all Integral managers listed as primary contacts in “APPENDIX A: Schedule of Management Contacts” who are considered to be key Integral personnel – and communicate the essential components of the plan to all employees and other staff. Integral managers and other employees will be updated on any essential changes to the plan, as needed. Copies of the plan shall be stored electronically at each corporate facility, readily accessible to key Integral employees.

4 Business Risk Assessment

The Business Continuity and Disaster Recovery Plan are designed to enable Integral to continue operating and to reestablish operations, with minimal disruption to market participants. The types of disruptive events that can affect the normal running of operations of Integral can include but are not limited to:

1. Environmental Disasters

- Tornado
- Hurricane
- Flood
- Snowstorm
- Drought
- Earthquake
- Electrical storms
- Fire
- Subsidence and landslides
- Freezing conditions
- Contamination and environmental hazards
- Epidemic/Pandemic

2. Organized and/or Deliberate Disruption

- Act of terrorism
- Act of sabotage
- Act of war
- Theft
- Arson
- Labor disputes/Industrial action

3. Loss of Utilities and Services

- Electrical power failure
- Communications services breakdown
- Loss of drainage/waste removal

4. Equipment or System Failure

- Internal power failure

- Air conditioning failure
 - Production line failure
 - Equipment failure (excluding IT hardware)
5. Serious Information Security Incidents
- Cyber crime
 - Loss of records or data
 - Disclosure of sensitive information
 - IT system failure

5 Proactive Prevention

Integral employees and personnel shall take reasonable steps to look for any potential problems that may be found and correct them to avoid a potential disaster or disruptive event.

5.1 Good General Housekeeping

All reasonable steps shall be taken by Integral employees and personnel to keep areas clean and free of obstructions and fire hazards.

All material documents and records, other than electronic records, shall be filed appropriately in the allocated file cabinets by each department.

All reasonable steps shall be taken by Integral employees and personnel to eliminate any obviously overloaded electrical circuits. Electrical appliances can only be used in their proper location (i.e. kitchen) and only when approved by Facilities.

Integral employs multiple personnel and employees in roles that are critical to continuing operations in the event of disaster. Roles and departments that are critical to continuing operations include but are not limited to the Accounting, Customer Support, Operations, Facilities and Engineering departments of Integral Development Corporation. In the event that any employee is not available, Integral is able to duplicate the competences of the unavailable employee through cross training of alternate employees.

5.2 Security Procedures

Integral employees and personnel are required to observe physical security procedures as defined by Integral Development Corporation's employee handbook at the office location.

Integral employees and personnel are required to observe information security procedures as defined by Integral Development Corporation's employee handbook regarding computers in the facility. This includes protection of passwords to computers and databases as well as locking or shutting down computers at the end of the workday.

5.3 Contact Information

Integral shall keep on record and distribute to all Integral employees and personnel a list of contacts (see "APPENDIX A: Schedule of Management Contacts"). This schedule of individuals to be contacted in the event of an emergency shall be updated by Integral periodically to account for any changes in personnel or contact information.

6 Policies and Procedures in the Event of Emergency

In the event of occurrence of one of the items listed above in the Business Risk Assessment, which may cause a system failure or malfunction, including phone, network connectivity, hardware/workstation or other emergency at the Integral location that materially limits business operations the following procedures shall be followed.

6.1 Notice to Integral Employees and Other Staff

In the event that a system failure or malfunction is detected by Integral system or personnel, the individuals listed in APPENDIX A: Schedule of Management Contacts shall be notified via phone, e-mail or other available mode of communication.

Department On-Call Lists: the Manager of each department notified of the failure or malfunction shall promptly notify the members of his/her department. Each Manager shall be responsible to maintain the names and emergency phone number of his/her department members.

6.2 Event Investigation

A full investigation shall be commenced by Integral to detect reasons for failure of a corporate facility or data center. Such investigation shall include but is not limited to an inquiry into the service providers and personnel, a review of procedures and guidelines, and consideration of any and all actions necessary to prevent the failure in the future.

A report of the investigation shall be compiled, documented and kept on record.

If applicable, the Director of Operations shall contact the appropriate local, state and federal authorities and insurance agencies.

6.3 Notification to Interested Parties

In the event that a system failure or malfunction causes a disruption of service to existing market participants, Integral Development Corporation's Support Team staff shall notify market participants and all interested parties about the emergency situation as soon as reasonably possible.

- E-mails will be sent to all affected market participants with high priority alert.
- In the event that backup systems have resumed normal operations with minimal disruption to business activities, the message will outline the steps necessary for market participants to follow in order to quickly resume data submission.
- In the event that service has not been restored, a message will outline the steps being taken by Integral to restore operations as well as the steps for market participants to follow in order to quickly resume data submission.
- In the event that no systems have resumed operations, the Director of Operations shall communicate and confer with Integral Principal Officers as to the future course of action to be taken by Integral.
- In the event of a service disruption, the status of the emergency situation, along with related updates and notifications are to be posted on the company's website, if possible. If necessary and available, instructions for alternate means of contacting the Integral appropriate departments or personnel shall be provided.

6.4 Loss of Workplace

In the event of a service disruption, directors, managers and supervisors shall communicate and confer by phone or email to establish an appropriate course of action and workflow environment depending on the infrastructural resources available (see APPENDIX C: Personnel Contact Information).

In the event of an unforeseen incident which makes it unreasonably difficult or impossible for Integral personnel to report to the office, employees shall have the option to work from their homes.

Employees shall use telephones and computers if applicable and available. Integral e-mail accounts shall be accessible through the Internet. Work phone numbers may be forwarded to homes.

In the event of a major disaster that affects an entire office and its vicinity; other Integral office locations will take over running of critical business services.

Department supervisors shall contact their employees to apprise the employees of the circumstances and the next course of action.

6.5 Loss of Phone Service

Phone calls can be redirected as necessary to Integral various worldwide locations in the event of failure or malfunction of phone service.

The Director of Operations shall be notified in case of failure or malfunction of phone service and shall administer necessary changes to the VOIP administration system.

6.6 Network Connectivity Failure

In the event of a complete network failure, the Director of Operations shall establish an appropriate course of action depending on the infrastructure resources available. In determining the appropriate course of action, an estimated time of network connectivity restoration shall be established.

7 Corporate Offices

Integral operates several offices globally that provide services to employees and customers:

- New York: 1114 Avenue of the Americas, 37th Floor, NY 10036
- Palo Alto: 3223 Hanover Street(office No.PALHAN017), Palo Alto, CA 94304
- London: Tower 42, Level 39, 25 Old Broad Street, London EC2N 1HQ
- Tokyo: Otemachi Financial City, Grand Cube 3F, Global Business Hub Tokyo BD Office 313, Otemachi 1-9-2, Chiyoda-ku, Tokyo 100-0004, Japan
- Singapore: Ocean Financial Centre, Level 40-08, 10 Collyer Quay, Singapore, 049315
- Bangalore: 16/1, Ground Floor, Cambridge Road, Halasuru, Bangalore 560 008

Critical corporate services have a redundant service running in at least another location or are provided by a hosted service provider that also offers redundancy in multiple locations:

Service	Backup Mode	Primary Location(s)
Global Business Support Phone Numbers	Hosted, Multi-Location	can be routed to any location
Business Support	Multi-Location	Palo Alto, London, Singapore, Tokyo
Operations Support	Multi-Location	Palo Alto, Bangalore
Corporate Email	Active-active	Palo Alto, Bangalore
VOIP	Active-active	All locations
Corporate Documents	Hosted	
Source Code Repository	Active-active	Palo Alto, Bangalore

8 Data Centers

Integral's production trading systems are located in data centers in the US, UK and Japan:

- Equinix NY4 in Secaucus, New Jersey, US
- Equinix LD4 in Slough, Berkshire, UK
- Equinix TY3 in Edagawa, Tokyo, Japan
- Equinix SG1 in Singapore

Equinix's International Business Exchange™ (IBX®) data centers provide a global average uptime of >99.9999%. To ensure electricity is always available, IBX facilities provide a minimum of N+1 power redundancy, so every mission-critical component has at least one backup power feed that kicks in when there's an outage. Equinix also stores enough fuel on site to provide 24 to 48 hours of emergency power and has guaranteed fuel delivery contracts to replenish those supplies.

Equinix Data Centers meet industry-leading standards including SSAE16 (NY4 certified for SOC-1 Type II and SOC-2 Type II; LD4 certified for SOC-1 Type II) and various ISO certifications.

Each Integral data-center facility can serve as a backup/DR facility for the other location for customers who opt for this premium data-center redundancy service.

8.1 Disaster Recovery Preparedness

Each site is kept up-to-date with the other site according to the schedule set-up detailed below.

- Databases: primary production databases are synced to alternate sites every 2 hours.
- Applications: application changes (property file changes, patch upgrades, etc.) are synced to alternate sites once a day.
- Other configuration changes on infrastructure servers, SVN, etc. are synchronized once a day.

8.2 Disaster Recovery Failover

In case an entire primary data center is affected, failover to the alternate facility is invoked following the mechanism outlined below:

- The Integral Operations team will make the assessment of a DR situation and immediately notify the Integral Director of Operations and VP of Services. These two people will agree on the severity of the situation and will notify the business support and customers outlined in the escalation document. Only once both agree on moving to the alternate facility will the authorization be given to Operations to start the process. Business support will at this point start informing customers about the failover plan and keep customers up-to-date.
- The Integral technical account manager team will configure the customer setup at the DR site based on the information from the replicated production database from last weekend. This includes the configuration of:
 - Pricing engine configurations (configuration of pricing streams in broker adapters)
 - Customer spread configurations (price provisioning via csv upload of from replicated prod database)
 - Customer credit configurations (credit via csv upload of from replicated prod database)
 - Liquidity configurations for available liquidity sources at the DR site
 - These configurations are designed to provide acceptable service quality during the DR situation
- The Operations team will start the applications at the DR site
- Public DNS records will be changed to point to the servers in the alternate site.

8.3 Restoration Plan

The decision to resume business and to return to the primary site will be made jointly between the Director of Operations and VP of Services. This would be jointly decided based on current risk and impact on business.

9 Appendix A: Schedule of Management Contacts

Location	Name	Title	Email Address	Primary Phone	Alternate Phone
Palo Alto	Udyan Kumar	VP, Head of Technology-Engineering	udyan.kumar@integral.com	+1 650-424-4518	+1 650-336-3861
Palo Alto	Peeyush Sharma	Director Operations	peeyush-sharma@integral.com	+1 650-424-4527	+1 650-450-1754
Palo Alto	Debbie Woodward	Director, Corporate Operations	debbie.Woodward@integral.com	+1 650-424-4564	+1 650-823-2460
London	Waqar Mahboob Khokhar	Systems Administrator	Waqar@integral.com	+44 20 7154 8062	+44 78 2575 2435
New York	Lee Issa	Systems Engineer	Lee.issa@integral.com	+1 212 938-5222	+1 201 394-3398
New York	Sunil Makhijani	Director, Technical Account Management	sunil.makhijani@integral.com	+1 212 938 5224	
Singapore	Shannon Wong	Trading Analyst	Shannon.wong@integral.com	+65 6372 6265+1 212 938-5222	+65 8323 4838+1 201 394-3398
Tokyo	Hiroshi Kitajima	Sales Specialist	Hiroshi.kitajima@integral.com	+81 3 3242 6172+65 6372 6265	+81 90 1405 9676 +65 8323 4838

10 Appendix B: Pandemic crisis management

Important information for our customers on pandemic crisis management

With the rapid global spread of coronavirus, Integral is taking steps to safeguard the health of our employees. We are monitoring information from the Centers for Disease Control and Prevention (CDC) and federal, state and local agencies to help ensure the actions we're taking are in line with the latest CDC recommendations and guidance. We have canceled all International travel and non-essential domestic travel. We have postponed attendance at all trade shows and conferences.

We also understand that limiting any impact this health event could have on our service to our clients is imperative. We want to share information with you, our customer, about how we continue to operate safely and effectively and ensure that there is no disruption in service.

As such, we have activated our Business Resiliency Plan, which includes:

- Enabling work from home capabilities within impacted regions
- Deploying a global strategy to coordinate delivery of services and support to our clients
- Providing our employees with information and best practices to prevent the spread of any illness
- Coordinating global and local communications with our associates, clients and partners

Should it be necessary for our employees to work from home, everyone is able to continue to work as effectively as if they were in the office. Meetings will be held using video conferencing and employees will communicate through email, mobile phone and various instant messaging applications.

Client meetings will continue using video conferencing and other channels.

Clients will continue to be able to contact us through the Business Support lines and these will be routed to employee's mobile phones. During this time, we ask that you use the general Business Support lines listed below to contact our Business Support employees, rather than their direct phone line. This will assist us in managing the volume of calls.

UK/Europe: +44.203.514.2439

North America: +1.212.252.2243

Asia: +65.31.58.0800

Email: support@integral.com

Business Support employees will have access to all applications and will be able to monitor and manage trades. Other Integral contacts can be reached by mobile phone or email. We will continue to monitor this fluid situation and will shift workloads, as necessary, should it become necessary to ensure essential services remain operational. Our first priority remains keeping Integral employees and clients safe and well-informed, while doing what we can to help minimize the potential spread of the Coronavirus. We will continue to communicate updates as appropriate.