

**SMBC Capital Markets, Inc.**

**Business Continuity and Disaster Recovery Plan**

Version 1.4.10

Last updated: 10/6/2017

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| **Version** | **Owner** | **Date** | **Document History** |
| 1.0 | Systems Infrastructure | 6/30/2014 | First version |
| 1.1 | Systems Infrastructure | 8/25/2014 | Revisions and updates pursuant to the NFA’s August 18, 2014 request, in connection with the Section 4s review process, including:   * In Section 1, revised wording to state that it is the “objective” of the BCDR Plan to continue or resume any operations by the next business day with minimal disturbance to its counterparties and the market and recover all documentation and data required to be maintained by applicable law and regulation; and * In Section 5.3, added Dan Driscoll as an NFA contact to the list of those whom the Firm should contact in the event of an emergency as described in that section. |
| 1.2 | Systems Infrastructure | 9/16/2014 | Pursuant to the NFA’s September 8, 2014 request, in connection with the Section 4s review process, revised Section 5.5 (“Critical Third Parties”) to further identify and describe the causes of potential business interruptions that may be encountered by Critical Third Parties. |
| 1.3 | Systems Infrastructure | 5/18/2015 | The following revisions were made to the Plan:   * Added Section 5.7 for the Wappingers Falls recovery site. * Updated Appendix A: BCDR Supervisory Personnel by removing Yasuhiro Miki and adding Yasuhiko Aosaka * Updated Appendix C: Calling Tree by removing Yasuhiro Miki as a Primary Contact; adding Yasuhiko Aosaka as a Primary Contact; and adding Erin Berman as a Primary Contact |
| 1.4 | Systems Infrastructure | 10/16/2015 | The following revisions were made to the Plan:   * Replaced Section 5.6 with Hawthorne recovery site to Section. * Added Section 5.8 for Harborside Data CenterThere is no longer user recovery space at Harborside. * Removed Section 6.2: Harborside Telephone Network * Updated Appendix B: BCDR Critical Employees * Updated Appendix C: Calling Tree * Updated Appendix D: Important Phone Numbers * Updated Appendix E: Technology in Place at Harborside |
| 1.4.1 | Systems Infrastructure | 1/19/2016 | Removed critical employee, Jason Meltzer |
| 1.4.2 | Systems Infrastructure | 4/21//2016 | The following revisions were made to the Plan:   * Updated section 5.6 by changing the name to CM Inc’s User Recovery sites. * Added the Princeton, NJ location. * Removed section 5.7 and combined it with section 5.6. |
| 1.4.3 | Systems Infrastructure | 7/27/2016 | Added Woodbury NY site |
| 1.4.4 | Systems Infrastructure | 10/20/2016 | Annual Update |
| 1.4.5 | Systems Infrastructure | 1/30/2017 | * Updated sections 5.2 and 5.2.1-5.2.5 to reflect PWC recommendations. * Amended Head Office GM information in Appendix D. * Replaced Calling Tree list with Network path to Calling Tree in Appendix C |
| 1.4.6 | Systems Infrastructure | 4/5/2017 | * Update Critical Employees by removing Atsushi Tanida and Robert LaRosa |
| 1.4.7 | Systems Infrastructure | 5/8/2017 | * Update Section 5.3 and Appendix A by replacing "Joint General Manager" with "Managing Director". The JGM title is no longer being used. * Update Appendix A by adding the Managing Director title to Thomas Sutton. * Update Section 5.6.8.1 by changing CM Legal to Transaction Management, the new department name. * Update Appendix B and Appendix C by replacing Steven Berg with Lacey Pope. Steve is now working in PDAD Legal. * Updated Critical Employees by removing Takahiro Ueno, Gail Jordan and John Schinestuhl and by adding Kunal Gogia and Maria Regan. |
| 1.4.8 | Systems Infrastructure | 7/6/2017 | * Updated job titles in Sections 5.3 and Appendix A. * Changed “KYC team” to “Client Onboarding Group” in Section 5.5.2. * Updated Critical Employee list (Appendix B) by removing/replacing terminated employees. |
| 1.4.9 | Systems Infrastructure | 7/25/2017 | * Updated Section 3.4 (locations have been modified) * Add Paul Stolbof to the Management team |
| 1.4.10 | Systems Infrastructure | 10/6/2017 | * Updated Section 6.1.1 (locations have been modified) * Updated Appendix B by replacing Panagiotis Paraskevopoulos with Brian Song * Updated Appendix E by adding to the “Telephones” section |

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# Overview

The Business Continuity and Disaster Recovery Plan (“BCDR Plan” or the “Plan”) outlines the procedures to be followed in the event of an emergency or other disruption of the normal business activities of SMBC Capital Markets Inc. (“CM Inc.” or the “Firm”).

The objective of the BCDR Plan is to continue or resume any operations by the next business day with minimal disturbance to its counterparties and the market, recover all documentation and data required to be maintained by applicable law and regulation, and preserve the safety and welfare of employees.

All employees should read this Plan carefully. Employees should also print this Plan, and keep a copy at home. If the Plan is revised, employees should print and save the revised version.

The Firm has established the BCDR Plan in accordance with CFTC Reg. § 23.603. Any subsequent changes to the BCDR Plan or associated procedures must continue to comply with the requirements of this regulation.

# Employee Designatations

For the purposes of the BCDR Plan, certain employees have been designated by the Firm as ***BCDR Supervisory Personnel*** and ***BCDR Critical Employees***. These designations are explained below. All employees who do not fall into either of these categories have been deemed as ***Non-Essential Personnel*** for BCDR purposes. This means that the employees’ services would not be considered essential to the Firm in the event of an emergency or other disruption to the Firm’s normal business activities.

## BCDR Supervisory Personnel

BCDR Supervisory Personnel are those individuals who are responsible for implementing each aspect of the BCDR Plan, including those responsible for deciding when to enact the BCDR Plan and how it should be executed during an emergency or other disruption impacting the Firm. A list of BCDR Supervisory Personnel and their responsibilities are contained in Appendix A.

In the event of an emergency or other disruption, employees designated as BCDR Supervisory Personnel should consult Section 4, entitled “Responsibilities of BCDR Supervisory Personnel.”

## BCDR Critical Employees

BCDR Critical Employees include the following personnel:

* Employees whose services may be needed in the event of an emergency or other disruption in order to reestablish or maintain critical business functions, including execution, settlement, clearing, risk management, and regulatory reporting;
* Employees whose services may be needed in the event of an emergency or other disruption in order to enable the backup site or backup systems; and
* BCDR Supervisory Personnel.

A list of critical employees is contained in Appendix B.

In the event of an emergency or other disruption, employees designated as BCDR Critical Employees should consult Section 5, entitled “Responsibilities of BCDR Critical Employees.”

## Non-Essential Personnel

All employees not designed as either BCDR Supervisory Personnel or BCDR Critical Employees are considered Non-Essential Personnel for BCDR purposes. This means that the employees’ services would not be considered essential to the Firm in the event of an emergency or other disruption to the Firm’s normal business activities.

In the event of an emergency or other disruption, Non-Essential Employees should consult Section 3, below, entitled “General Information for All Employees.”

# General Information for All Employees

## Overview

This section contains instructions and information for Firm employees in the event of an emergency or other disruption to the Firm’s normal business activities. Employees who have also been designated as BCDR Critical Employees should also consult Section 5, entitled “Responsibilities of BCDR Critical Employees.” Employees who have been designated as BCDR Supervisory Personnel should consult Section 4, entitled “Responsibilities of BCDR Supervisory Personnel.”

In the event of an emergency or other disruption, please refer to the following instructions:

1. If you in the office at the time that an emergency or other disruption occurs:
   1. You should generally stay in the office and wait for information from management.
   2. If you are asked to evacuate, do so immediately. For further information regarding evacuation, refer to Section 3.4, below.
2. If you are not in the office at the time that an emergency or other disruption occurs:
   1. If you have not already received a phone call or email from your direct supervisor or management, then call your direct supervisor using the information provided in the Calling Tree, attached in Appendix C, or in the Key Contacts Database, of which you should have a printed copy. If you cannot reach your direct supervisor, call the SMBC Business Continuity Hotline (1-800-938-2359).
   2. Come to the office only if you have not received instructions to the contrary and are able to commute to the office safely. If you are unable to travel safely to the office or have been to not come to the office, call your direct supervisor or the SMBC Business Continuity Hotline (1-800-938-2359) for instructions. You may be asked to log in from home, if you have remote access, or to go to the Firm’s backup locations in Hawthorne, New York; Wappingers Falls, New York; Princeton, New Jersey; or Woodbury, NY, if you have been designated as a BCDR Critical Employee.
3. If you supervise employees or have otherwise been assigned responsibility to call other employees as part of the calling tree in the event of an emergency or other disruption, see Section 3.5, below, for instructions in the event that the calling tree is initiated.
4. If the emergency or disruption involves a potential or actual pandemic, refer to Section 3.7, below, for further information.

## How to Access the SMBC BCDR Hotline

If you are not in the office and have not received any communication from your director supervisor, BCDR Supervisory Personnel, or other Firm management regarding an emergency or other disruption, please call the ***SMBC BCDR Hotline*** for further information. The Hotline number is ***1-800-938-2359***.

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## E-mail Communications

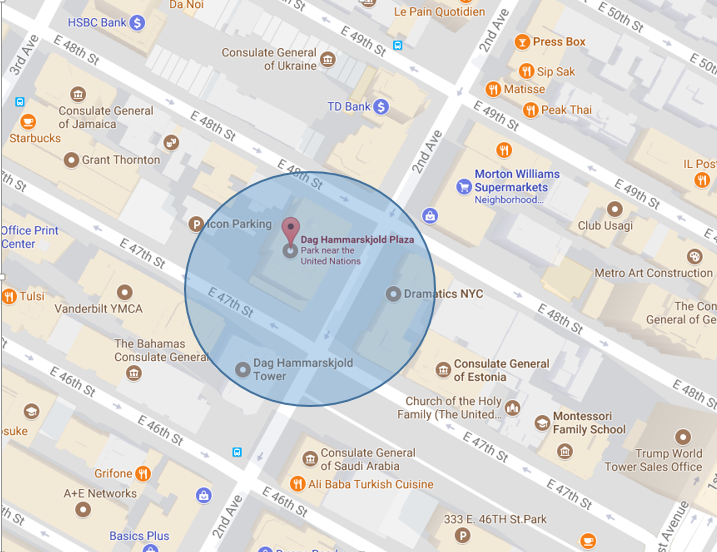
During an emergency or other disruption, BCDR Supervisory Personnel email all Firm employees informing the employees about the emergency or disruption, the necessary actions required of the Firm and the employees and also provide a copy of the latest BCDR documents.

BCDR Supervisory Personnel will either call or send additional emails to staff members who have been designated as a BCDR Critical Employees with specific instructions on what steps they need to perform.

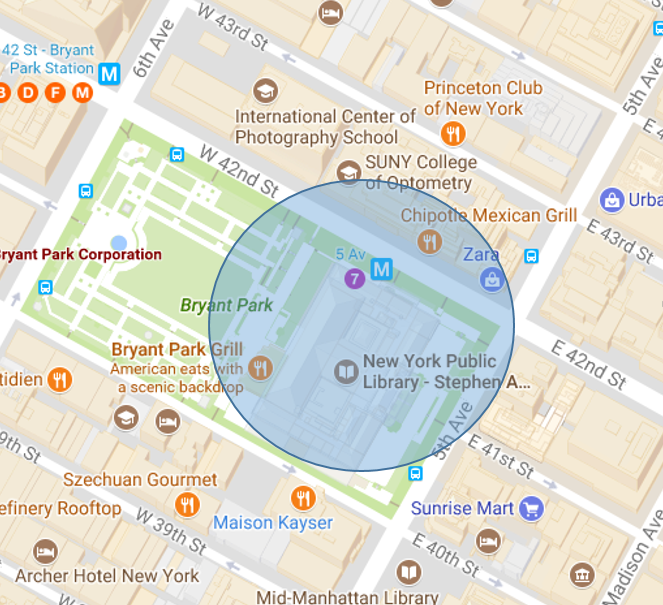
## How to Evacuate 277 Park Avenue

In the event of an emergency, employees may be instructured to evacuate 277 Park Ave. Please evacuate quickly via the stairs to the Primary Meeting Point (designated below), if the Primary Meeting Point is unavailable, then exacuate to the Secondary Meeting Point (also designated below).

**Primary Meeting Point:** The first assembly point is One Dag Hammarskjöld Plaza/Park (47th Street between 1st and 2nd Ave.) Please find and evacuate with your Department Head to this location if possible.



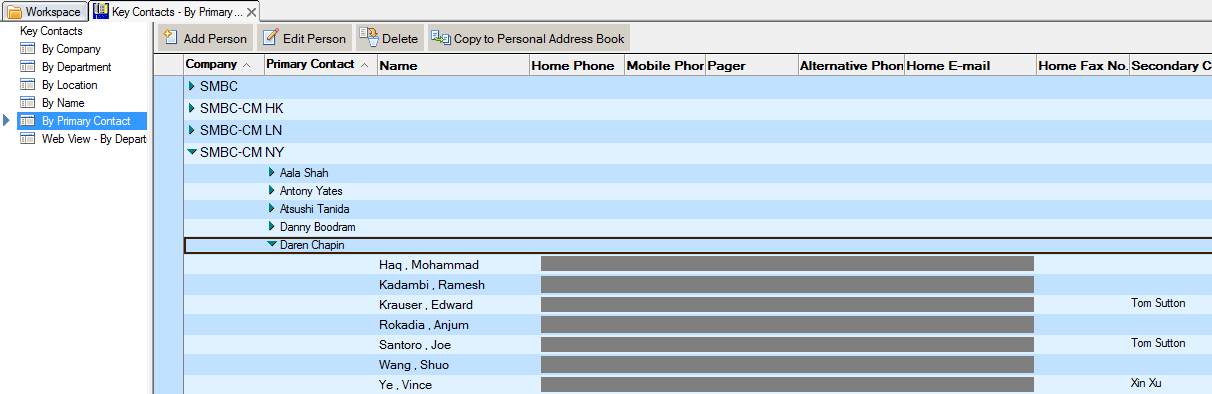
**Secondary Meeting Point:** If the Primary Meeting Point is not accessible, Bryant Park North East corner of Byrant Park at 5th Avenue and 42nd Street.



## Calling Tree Procedures

During an emergency or other disruption, the Firm may utilize its calling tree, which includes the following steps:

Calling Tree Steps

1. Senior Management and BCDR Supervisory Personnel will decide on an appropriate course of action based on such factors as the type of emergency/disruption, guidance from government authorities, the current condition of the CM Inc. office space at 277 Park Ave., weather, and the condition of the local transportation systems
2. If this course of action involves use of the calling tree, the Chief Technology Officer, or his designated backup, should initiate the calling tree. To do this, Tom Sutton or his designated backup should call the individuals listed in the “Call Recipient” column of the chart in Appendix C.
3. To obtain the assigned employees and their contact information, the caller should refer to Appendix C, below. This information is also available in Lotus Notes. The following instructions explain how it may be accessed:
   1. To open the firm’s Key Contacts database in Lotus Notes, look for the icon on your Lotus Notes Workspace tab labeled “Key Contacts.” Once you find the icon, double click on it and this will open the database.
   2. Once the Key Contacts database is open, look in the left panel. There will be multiple views available such as By Company, By Department, By Location, etc. The caller will need to select the “By Primary Contact” view.
   3. Next, the caller will need to select the appropriate company and location. For example, a CM Inc. employee located in the New York office would need to select “SMBC-CM NY” and look for their name.
      1. If your name is not in the list, you are not responsible for calling any other individuals.
      2. If your name is on the list, clicking on the triangle icon near your name, which will reveal the your assigned contacts, illustrated in the following image:
4. Each employee who receives a call should call any other employees assigned to them, according to the “Call Recipient” column of the chart in Appendix C.
5. When calling an employee, the caller should inform the employee of the emergency/ disruption and the necessary actions required by the Firm. The caller should also advise employees to obtain their copy of the BCDR Plan.
6. If a caller is unable to establish communication with one of his or her assigned contacts, then the caller must call all the people that are assigned to the person you are responsible for calling (see illustration below). This extra step ensures that the call tree continues to all employees.

Call Tree Illustration

Example where a person is unreachable

**Call**

**Call**

**Person B  
Unreachable**

## How to Use the Remote Access Infrastructure

Please use the following procedures if you have been instructed by BCDR Supervisory Personnel or other Firm management to use remote access during an emergency or other disruption affecting the Firm.

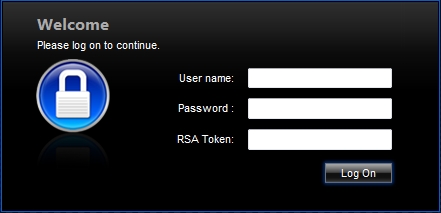
### How to Access Computer Workstations from a Remote Location

Prerequisite:

You must have been given access to the Remote Access Infrastructure prior to completing the login steps listed below. (All BCDR Critical Employees should such access.) If you have not been given access prior to the emergency or other disruption, please inform your Manager and/or the BCDR Supervisory Personnel when they have instructed you to use Remote Access or you can contact the Systems Infrastructure help desk. (See Appendix D for their contact information.)

Login Steps

1. From your browser on your computer, go to the Remote Access Link: <https://remote.smbc-cm.com>



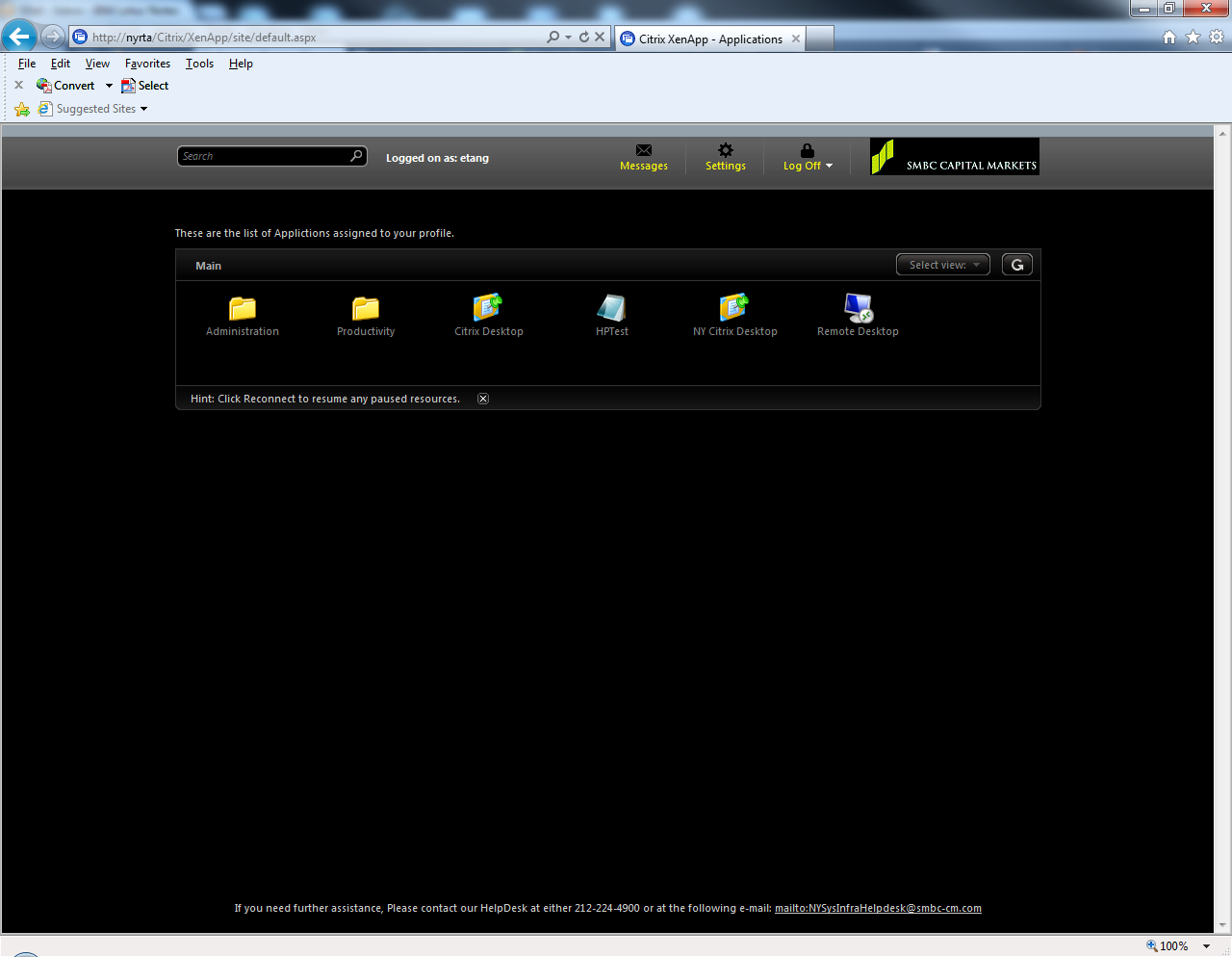
1. Enter your Username, Password and RSA Token

* Your Username is the ID you use to log into your workstation while in the office
* Password is your current password for your workstation
* The RSA Token field includes your PIN and the randomly generated number on the RSA Token assigned to you. Please note, you created the PIN when you originally signed up for the CM Inc. Remote Access.

1. After logging in, you should be prompted to install the Citrix Receiver plugin, click the “Install” button to start the install. This should start a download.
2. After the download completes, click on the Run button to start the install. (For MAC Users, the file is downloaded to your Download folder. There you will see a Citrix file with the extension .dmg. Double click on it and double click on install Citrix Online Plugin.)
3. Continue following the installation instructions on the screen.

If the installation fails to complete, try these alternative steps:

1. Go to <http://www.citrix.com/products/receiver/overview.html>
2. Look for a link saying “Download Citrix Receiver”.
3. The file should download to the Download folder of your PC/Mac.
4. Find the file then double click it to install.
5. After the installation is complete, go back to the SMBC webpage and hit continue. It should bring you to the main page where you can access the Citrix Desktop.
6. On the webpage will be an icon that says “Citrix Desktop” (This maybe under the tab that says desktop depending on your configuration).
7. Click on the icon to log into our remote access servers. There, it will bring up your desktop, along with the network drives that you need.

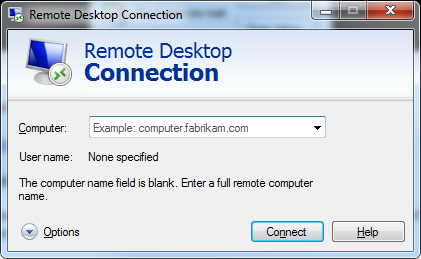


**Microsoft Remote Desktop**

You can also connect with your workstation directly using Remote Desktop software that is built into Microsoft Window. However, you will need to request Remote Desktop from IT in order to use it. Please be aware, Remote Desktop is slower than using the Citrix Desktop.

If you have been approved by IT, perform the following steps to get the Remote Desktop to work:

1. Click the Windows Start button and under the tab “Applications”, click on Remote Desktop. The Remote Desktop Connection window will appear.



1. Enter in your PC name in the Computer section and hit connect.
2. Once Remote Desktop connects to your PC, you should see your workstation including all installed software and documents.

Note: For any technical assistance, please email [HelpDesk@smbc-cm.com](mailto:HelpDesk@smbc-cm.com) or call the phone number specified in Appendix D.

### How to Communicate with Employees, Counterparties, Third Parties or Clients by Phone from a Remote Location

#### Communication with Other Employees

If an employee needs to communicate by phone with another employees from a remote site then they should use a company issued mobile phone. If an employee has not been issued a company issued phone, they should use their home phone or mobile phone. If you need to call internationally, the employee should try utilizing the Firm’s conference call system so they don't incur international calling fees on their phone. If a conference call number is not available, employees should call one of the User Recovery Sites phone numbers listed in Section 5.6.8 and 5.7.8 and ask that an employee conference call you with the person overseas.

#### Communications with Counterparties, Third Parties and Clients

If an employee needs to communicate by phone with a counterparty or client, the employee must first determine if the conversation needs to be recorded. If as part of your normal job functions you are required to record your conversations to comply with regulations or company policy and you utilize a recorded line, you must coordinate with a CM Inc. employee in the User Recovery Sites to conference call with you and the counterparty, third party or customer on a recorded line. You should not call a counterparty, third party or client directly on a mobile or personal phone without CM Inc. recording capabilities if you are required to have the call recorded. If you are not required to record the conversation, then use the same steps listed above in “Communication with Other Employees.”

## Pandemic Emergencies

A pandemic is an epidemic (an infectious illness) that spreads across the globe affecting every continent rather than being confined to one geographic area. To help minimize business disruption during a pandemic emergency, the Firm has established a protocol to reduce the spread of the illness by reducing the number of employees in the office and may require employees to work from home using the Firm’s Remote Access Infrastructure.

If a pandemic emergency occurs, senior management will initiate the Firm’s calling tree, as described in Section 3.5, and communicate with all employees by email.

### Pandemic Decision Tree

Please refer to the following diagram, called the “Pandemic Decision Tree”, which helps employees understand what they should do during a pandemic emergency.

### Responsibilities of PDT Staff During a Pandemic Event

Pandemic Deployment Team ("PDT") represents staff required for all departments that conduct critical business operation functions such as trade execution, settlement, clearing, regulatory reporting, risk management, and IT. Once the Pandemic BCDR Plan is enacted, PDT members are required to work on site at 277 Park Avenue, and the number of PDT staff should be kept at a minimum necessary. General guidelines of the number of PDT staff is 25% to 33% of staff in each department. Front Office should cooperate to reduce non-urgent and unnecessary transactions.

### Responsibilities of PDT-Reserve Staff During a Pandemic Event

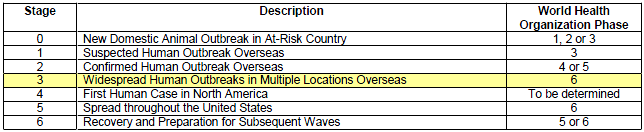
Staff not designated PDT Staff are considered “PDT-Reserve Staff.” This means that you may be asked to report to the Firm’s New York office to relieve PDT staff in the event of a pandemic emergency. Until such time, you should stay at home, keep a copy of the BCDR Plan with you, and maintain communication lines (VPN, Blackberry, Mobile, and Home phone). Continue working at home via the Firm’s remote access infrastructure only if directed to do so by your supervisor, BCDR Supervisory Personnel, or other members of management, or if otherwise arranged in advance.

Should you (or an immediate family member with whom you live or have had recent contact) become sick or have flu-like or other symptoms, it is required that you notify your supervisor.

Report your health condition as instructed daily, and prepare for any request to cover required functions, including reporting to the office.

### CM Inc. Pandemic BCP Deployment Plan

The following chart shows different stages of escalation of a potential pandemic event. Should a pandemic event reach Stage 5 or above, the “Pandemic BCP” will be initiated.



If the Pandemic BCP is initiated, all staff other than PDT Staff should stay at home as PDT-Reserve Staff, keeping maximum attention to preventing virus infection. BCDR Supervisory Personnel, NY Department Heads, and PDT will then control all activities conducted during BCP deployment. Essential business will be conducted by PDT on site, and Senior Management may ask PDT-Reserve members to relieve, replace or to be added to PDT if required.

# Responsibilities of BCDR Supervisory Personnel

## Overview

This section contains information to be used by BCDR Supervisory Personnel during an emergency or other disruption.

As described in Section 2.1, BCDR Supervisory Personnel are those individuals who are responsible for implementing each aspect of the BCDR Plan, including those responsible for deciding when to enact the BCDR Plan and how it should be executed during an emergency or other disruption impacting the Firm. A list of BCDR Supervisory Personnel and their responsibilities is contained in Appendix A.

BCDR Supervisory Personnel must coordinate the response of all departments within the Firm to manage the BCDR response to an incident and to ensure business critical functions are reinstated as soon as possible, but in no event later than the next business day.

## BCDR Plan Implementation

In the event of an emergency or other disruption, BCDR Supervisory Personnel must first determine whether to invoke the BCDR Plan based on whether the Firm’s critical functions are or may be impacted by the incident. BCDR Supervisory Personnel may need to consult with the Firm’s senior management and department heads (see Appendices A and B for contact information) in determining what response to an actual or potential event is appropriate.

If BCDR Supervisory Personnel decide to invoke the BCDR Plan, they must next decide what specific actions must be taken to achieve the Firm’s overriding goals for the BCDR Plan of:

* Preserving the safety and welfare of employees;
* Enabling the Firm to continue or resume any operations by the next business day with minimal disturbance to its counterparties and the market; and
* Recovering all documentation and data required to be maintained by applicable law and regulation.

Invocation of the BCDR Plan may involve implementation of all or only some of the actions that that are described herein, up to and including use of the Firm’s backup facilities, as necessitated by the facts and circumstances of an emergency or other disruption, whether actual or potential.

## Employee Communication Plan

When the Firm’s BCDR Supervisory Personnel have decided to enact the BCDR Plan in response to an emergency or other disruption, the Firm’s BCDR Supervisory Personnel must contact employees using the communication plans described in this section.

BCDR Supervisory Personnel should first communicate with employees designated as BCDR Critical Employees (see Sections 2.2 and 5 and Appendix B), and then with employees not directly involved in the BCDR recovery effort.

BCDR Supervisory Personnel should utilize both telephone calls and e-mails to reach employees. BCDR Supervisory Personnel must provide employees with instructions on what to do and ask that they refer to the BCDR Planso they understand what actions and decisions will be made during the emergency or other disruption.

### Telephone Communications and the Calling Tree

During an emergency or other disruption, the Firm’s BCDR Supervisory Personnel must decide whether to enact the Firm’s calling tree, the procedures for which are contained in Section 3.5, above.

The calling tree must be utilized if the Firm’s NY office has or will be closed during non-business hours. The calling tree should also generally be utilized, in conjunction with other methods such as email, if information must be disseminated to all or most employees during non-business hours. At other times, BCDR Supervisory Personnel, in consultation with other members of senior management, should decide whether to enact the calling tree based on the facts and circumstances of the specific potential or actual emergency or other disruption.

### E-mail Communications

In the event of an emergency or other disruption BCDR Supervisory Personnel should communicate with all employees to inform them about the potential or actual emergency or disruption, to direct them regarding any necessary actions required of the Firm and its employees, and to provide a copy of the latest BCDR Plan.

When emailing the BCDR Plan, the following guidelines apply:

* All employees must receive at least Sections 1-5 and associated appendices (i.e., the general information sections and sections regarding the responsibilities of BCDR Supervisory Personnel and BCDR Critical Employees).
* Employees designated as BCDR Supervisory Personnel and Systems Infrastructure personnel must receive a copy of the full BCDR Plan, including Section 6 (“Systems Infrastructure Backup Site Plan”) and associated appendices.

To send a mass email to all Firm employees in the NY office, complete the following steps:

1. Open Lotus Notes. Click the button that says “Create e-mail message”
2. In the “To” field, type “**nyusers@smbc-cm.com**.” Fill in the “subject” line as appropriate.
3. Draft the body of the email. Include a description of any actions employees should take.
4. Attach the latest copy of the BCDR Plan to the document, according to the guidelines described above. Request that employees print a copy of the latest Plan if they have not already done so.

## Required Notification of Certain Third Parties

As described in Section 5.1, certain circumstances require the notification of and communication with specific third parties during an emergency or other disruption. BCDR Supervisory Personnel and the personnel identified in this section are responsible for ensuring this occurs.

# Responsibilities of BCDR Critical Employees

## Overview

BCDR Critical Employees include the following personnel:

* Employees whose services may be needed in the event of an emergency or other disruption in order to reestablish or maintain critical business functions, including execution, settlement, clearing, risk management, and regulatory reporting;
* Employees whose services may be needed in the event of an emergency or other disruption in order to enable the backup site or backup systems; and
* BCDR Supervisory Personnel.

A list of critical employees is contained in Appendix B. In the event of an emergency or other disruption, employees designated as BCDR Critical Employees should consult this section, along with Appendix B.

BCDR Critical Employees must have access to the Firm’s backup site or remote access infrastructure immediately after a BCDR event. BCDR Critical Employees are identified in Appendix B by name and the day of an emergency or other disruption to the Firm’s normal business activities that these employees must have access to the Firm’s backup site, systems or remote workplace infrastructure. Critical Employees marked Day 1 will have higher priority than employees marked Day 2. Day 2 employees will have higher priority than Day 3 and so on. BCDR Critical Employees’ names and day designation are also captured in the Firm’s “BCP Contact List”.

Employees identified as “BCDR Critical Employees,” must cooridinate with their supervisors or BCDR Supervisory Personnel, who will provide additional instructions on what to do during an emergency or other disruption. Unless it is unsafe to do so, BCDR Critical Employees must report to the Firm’s backup site to perform their business functions if asked to do so during an emergency or other disruption. If a BCDR Critical Employee is unable to travel to a backup site during an emergency or other disruption, either because it is impossible or unsafe to do so, the employee must coordinate with his or her supervisor or with BCDR Supervisory Personnel and, if instructed to do so, must work using the Firm’s remote access infrastruce to perform his or her job functions.

It is important that BCDR Critical Employees read and be familiar with the information contained in this section, particularly that which may be relevant to their specific role.

## Communications with Third Parties

The Firm must be prepared to communicate with counterparties and other third parties, as identified in this section and in Section 5.5 (“Critical Third Parties”), during an emergency or other disruption. BCDR Supervisory Personnel and the personnel identified in this section are responsible for ensuring this occurs according to the procedures described below.

When communicating with third parties, the following points should be considered and communicated as applicable:

* Nature of the event;
* Impact on the third party, if any;
* Anything the third party should do to mitigate risk;
* Anything the third party needs to provide to the Firm;
* Actions the Firm is taking to resolve the situation; and
* A timeline for resolution (if known and appropriate to disclose based on management’s direction).

### Notifying Counterparties

Should an emergency or other disruption occur that has a significant adverse effect on the Firm’s counterparties, the Firm must immediately notify all affected counterparties. Counterparties must be provided with all pertinent information, including information that may mitigate or prevent further adverse effects.

BCDR Supervisory Personnel, in consultation with senior management and department heads as necessary, shall be responsible for directing Firm personnel in communicating with counterparties in the event of an emergency or disruption. Contact information for all counterparties can be found either in Bloomberg or the Prism database.

Generally, the Head of the Marketing Department will assign relevant Marketers to communicate with affected counterparties. Alternately, the Head of Operations may assign Operations Department personnel to communicate with counterparties where the disruption is relevant to the settlement, clearing, or other functions performed by the Operations Department.

### Communicating with Execution and Trading Facilities

The Firm may be required to communicate with execution facilities during an emergency or other disruption. This would typically be necessary if a third-party execution facility, trading facility, or trading platform experiences a business interruption, outage, or other disruption.

Should this occur, the Firm should immediately contact the execution facility to determine the nature and potential/probable duration of the disruption. If the disruption may adversely affect counterparties, the Operations Department, in cooperation with the Front Office if appropriate, should prompltly notify the affected counterparties (see Section 5.2.1, above).

Contact information for CFTC-registered Swap Execution Facilities (“SEFs”) of which the Firm is a member is contained in the chart below. Contact information for other execution facilities may be found in Section 5.5.1, below, along with actionable procedures to minimize the impact of potential business interruptions that could be encountered by such execution facilities.[[1]](#footnote-2)

Front Office or Operations Department personnel who identify a business interruption, outage, or other disruption must consult with Senior Management and/or BCDR Supervisory Personnel and, if instructed, communicate with execution facilities as described in this section. Senior Management must notify BCDR Supervisory Personnel if such a disruption occurs; BCDR Supervisory Personnel must ensure that execution facilities are contacted as necessary and that appropriate actions, including those described in Section 5.5.1, are taken.

|  |  |
| --- | --- |
| **Swap Execution Facility (SEF)** | **Contact Information** |
| **BGC Derivatives Markets, L.P** | Main No: 646-346-7000  bgcsef@bgcpartners.com |
| **Bloomberg SEF LLC** | Michael Wheat (Main Contact): 212-617-2696  Main No: 212-318-2000 |
| **GFI Swaps Exchange LLC** | Main No: 212-968-4100  Brian Cummins (Main Contact): Brian.Cummins@gfigroup.com  U.S. SEF Control Desk: control@GFIexchange.com |
| **ICAP SEF (US) LLC** | Melissa Schule (Main Contact): 212-815-6804  Main No: 212-341-9900  Head Office: + 44 (0) 20 7000 5000 |
| **Javelin SEF, LLC** | Dan Moon: dan.moon@thejavelin.com  NY Office Main Phone: 212-779-2300  Support: 877-528-9244 | info@thejavelin.com  Javelin Technology Support: 646-588-2000  support@thejavelin.com |
| **tpSEF Inc.** | Tim Mcardle (Main Contact): 201-984-6559  Main No: 201-984-6660  General Enquiries: 201-557-5599; info@tpsef.com  IT & Connectivity: it@tpsef.com |
| **Tradition SEF, Inc.** | 212-377-2326 (Main)  tradsefob@tradition.com (Main) |
| **TrueEX LLC** | Gloria Flinn: 646-786-8527; gloria.flinn@trueex.com  Support Desk: 646-786-8526; support@trueex.com  Main No: 646-786-8520; info@trueex.com |
| **TW SEF LLC**  Shea McCabe | Shae McCabe (Main Contact): 646-430-6078  Main No: 800-541-2268 |

### Communicating with Swap Data Repositories (SDRs)

In the event of an emergency or a disruption that would have a significant adverse effect on the Firm’s ability to report trades to a Swap Data Repository (“SDR”), the head of the Confirmations Group must ensure that Confirmation staff immediately notify BCDR Supervisory Personnel and CM Inc. Senior Management. The head of Confirmations, staff designated by him, or other personnel as instructed by BCDR Supervisory Personnel, must then immediately notify related SDRs. The contact information for each SDR to which the Firm reports is contained in the below chart.

The below contact information should also be used in the event an SDR experience a disruption that may affect the Firm’s ability to report trades to the SDR. Should this occur, the Operations Department should immediately contact the SDR to determine the the nature and potential/probable duration of the disruption. If the disruption may adversely affect counterparties, the Operations Department must prompltly notify the affected counterparties (see Section 5.2.1, above).

|  |  |  |
| --- | --- | --- |
| **Agency** | **Contact Person(s)/ Group** | **Contact Information** |
| **Swap Data Repository** | **Depository Trust & Clearing Corporation (DTCC)** | Client Support: Tel: 1-888-382-2721  (U.S. and Canada)  Production Support – North America:  1-888-382-2721 (Options 3, 2, and 2) |

### Communicating with Designated Clearing Facilities (DCOs)

The Firm may be required to communicate with designated clearing facilities (“DCOs”) during an emergency or other disruption. This would typically be necessary if a DCO experiences a business interruption, outage, or other disruption. Should this occur, the Firm should immediately contact the DCO to determine the the nature and potential/probable duration of the disruption. If the disruption may adversely affect counterparties, the the head of the Settlement Group will ensure that Settlements staff, in cooperation with the Front Office if appropriate, prompltly notify the affected counterparties (see Section 5.2.1, above).

The Firm is currently a member of one DCO, LCH.Clearnet Ltd. (“LCH”). LCH’s contact information is contained in Section 5.5.2.1, below, along with procedures designed to minimize the impact of potential business interruptions that could be encountered LCH

### Communicating with Data, Communications, Infrastructure Providers, and Other Third Parties

In the event of an emergency or other disruption, the Firm must be prepared to communicate with data, communications, or infrastructure providers, as well as with other third parties, including disaster recovery specialists[[2]](#footnote-3) and other persons essential to the recovery of documentation and data, the resumption of operations, and compliance with the Commodity Exchange Act and CFTC regulations.

Contact information for data, communications, or infrastructure providers is contained in Section 5.5.4, along with procedures designed to minimize the impact of potential business interruptions that could be encountered by these third parties. Should the Firm experience an outage or disruption by a data, communications, or infrastructure provider, it is the responsibility of the Systems Infrastructure Department to immediately contact the provider and of BCDR Supervisory Personnel to ensure that this is done. Systems Infrastructure must attempt to ascertain the nature and potential/probable duration of the disruption and initiate plans to utillize backup infrastructure if necessary, as described in Section 5.5.4.

Contact information for Iron Mountain and Vital Records, Inc. (VRI), organizations that are potentially essential to the recovery of documentation and data, is included in the chart below.

|  |  |
| --- | --- |
| **Provider** | **Contact Person(s)/ Information** |
| **Iron Mountain**  (Offsite storage for paper documents) | Michael L. Curcio  Business Development Executive, National Accounts  22 Kimberly Road  East Brunswick, NJ 08816  Office: (732) 651 - 2903  Mobile: (609) 480 - 6587  Main: (800) 934-3453  michael.curcio@ironmountain.com |
| **Vital Records, Inc. (VRI)**  (Offsite storage for media) | VRI: Offsite storage for media  Jim Crisci  Vital Records Inc.  P.O. Box 688  Flagtown NJ, 08821  Office: (908) 369-6900  Main: (973) 927-0405  jcrisci@vitalrecords.com |

## Notification of Regulators

In the event of an emergency or a disruption that either affects the ability of the Firm to fulfill its regulatory obligations or would have a significant adverse effect on the Firm, its counterparties, or the market, the Chief Compliance Officer must notify the CFTC’s Division of Swap Dealer and Intermediary Oversight, using the information in the chart below, no later than one business day from the beginning of the disruption. Such disruptions include, but are not limited to, the inability of the Firm to execute, report, settle, or clear trades, to make payments to counterparties, or to manage the risk associated with its portfolio.

If the Chief Compliance Officer is unavailable, then a Director in the Compliance Department shall be responsible for contacting the CFTC. If a Director in the Compliance Department is not available, then a Managing Director of the Firm must contact the CFTC.

Should the CFTC be contacted in such a circumstance, the Firm should also notify the Firm’s main contact at the National Futures Association (“NFA”) as well as Dan Driscoll, (NFA, Executive Vice President & Chief Operating Officer) within one business day. If the Firm’s main NFA contact is unavailable, the secondary contact identified below should be contacted.

|  |  |  |
| --- | --- | --- |
| **Agency** | **Contact Person(s)/ Group** | **Contact Information** |
| **Commodity Futures Trading Commission (CFTC)** | Division of Swap Dealer and Intermediary Oversight  Main Office:  Three Lafayette Centre  1155 21st Street, NW  Washington, DC 20581  Eastern Regional Office:  140 Broadway New York, NY 10005 | Division of Swap Dealer and Intermediary Oversight:  Tel: 202-418-6700 (Main)  Main Office:  Tel: 202-418-5000 Fax: 202-418-5521  Eastern Regional Office:  Tel: 646-746-9700 Fax: 646-746-9938 |
| **National Futures Association (NFA)** | Dan Driscoll  Executive Vice President & COO  Joëlle Webb, J.D.  (Main Contact)  Veronica Jedzejec  (Secondary Contact)  Chicago Headquarters:  300 S. Riverside Plaza, #1800  Chicago, IL 60606-6615  New York Office:  One New York Plaza, #4300 New York, NY 10004 | Tel: 312-781-1320  Joëlle Webb, J.D.  Tel: 212-513-6077  Email: jwebb@nfa.futures.org  Veronica Jedzejec  Tel: 212-513-6032  Email: vjedzejec@nfa.futures.org  Chicago Headquarters:  Tel: 312-781-1300  Fax: 312-781-1467  New York Office:  Tel: 212-608-8660  Fax: 212-964-3913 |

## Business Document and Data Locations

The following table lists the key business documents and data utilized by the Firm’s critical business functions (execution, settlement, clearing, and risk management), the system application name and storage system that maintains the data. These systems have backup infrastructure in place and running at the Harborside data center.

On a daily basis, the data for these systems are replicated between the 277 Park Avenue and Harborside data centers. If the Primary data center goes down, the Systems Infrastructure department will quickly instruct the systems to use the Harborside Data Center as the production environment. Since the data is being synced between the data centers, there should be minimal impact to the critical business functions.

| **Record Category** | **Record Type** | **Application Name** | **Storage System** |
| --- | --- | --- | --- |
| **Transaction Records** | Bids and Offers | Lotus Notes | SourceOne |
|
| Correspondence |
|
| Risk Disclosure Documentation |
| **Transaction Records** | Ledgers | Prism | Prism |
| **Transaction Records** | Statements of purchase and sale | Sharepoint | SharePoint Scanned Document Repository |
|
| Contracts |
|
| Broker Statements |
|
| Confirmations |
|
| **Position Records** | Positions | Prism | Prism |
| **Governance Records** | Board Meeting Minutes | Prism | Prism Folder Browser - /Corporate |
|
| Board Meeting handouts, presentations, attachments |
|
| Organizational Charts |
|
| Internal and External Audit reports | Lotus Notes | Lotus Notes: Audit Planning NYApps/CM/NY/SMBC CapMkts\AuditCM.nsf |
|
| Business and Strategic plans | Prism | Prism Folder Browser - /Corporate |
| **Governance Records** | Biographies and resumes | File Share | [V\Job Descriptions (V:)cmcompliance(\\nynasfs1) SourceOne](file:///\\V\Job%20Descriptions%0aSourceOne) |
| **Governance Records** | Job Descriptions | File Share | [V\Job Descriptions (V:)cmcompliance(\\nynasfs1) SourceOne](file:///\\V\Job%20Descriptions%0aSourceOne) |
| **Financial Records** | Assets, liabilities, income, expenses and capital accounts | Elf | Elf |
| **Financial Records** | Other financial records | Prism | Prism Folder Browser - /Corporate/Financial\_Statements/Inc |
| **Complaints** | Complaint Records | File Share | [\\V\Complaints (V:)cmcompliance(\\nynasfs1) SourceOne](file:///\\V\Complaints%0a%0aSourceOne) |
| **Complaints** | Complaint Disclosure | Sharepoint | SharePoint Scanned Document Repository - Protocol Documents |
| **Marketing & Sales Material** | Corporate Material | Prism | Prism Folder Browser - /Corporate/ Business\_Development |
|
| **Marketing & Sales Material** | Traders Material | Prism | Prism Folder Browser - /Departments/Trader/*tradername* |
|
| Data reported to a SDR | PET, Real-Time Data, Confirmations, Snapshot data | Prism | Prism |
| Real-Time Reporting | PET, Real-Time Data, Confirmations, Snapshot data | Prism | Prism |
| Daily Trading Records – Pre-Execution | Voice Records | NICE | NICE Recording System |
| Daily Trading Records – Pre-Execution | Email | Lotus Notes | SourceOne |
|
| Fax | Efax |
|
| Chat | Bloomberg IM/Sametime |
| Daily Trading Records – Execution | Deal Tickets - Prism | Prism | Prism |
| Daily Trading Records – Execution | Deal Tickets – Deal Ticket System | Lotus Notes - Deal Ticket | Deal Ticket System NYApps/CM/NY/SMBC CapMkts\DealTickets\ModDTp1.nsf |
|
| Daily Trading Records – Execution | Deal Tickets - MarkitWire | Prism | SwapsWire Browser - Prism |
| Daily Trading Records – Execution | Unique Swap Identifier (USI) | Prism | Prism |
|
| Date & Time of execution |
|
| Counterparty identification (Unique Counterparty Identification) |
|
| Unique Product Identifier |
|
| Pricing |
|
| Fees, commissions, expenses |
|
| Any other information |
| Daily Trading Records –Execution | Date & title of the agreement | Sharepoint | SharePoint Scanned Document Repository |
| Daily Trading Records – Post-Execution | Confirmations | Prism | Prism |
| Daily Trading Records – Post-Execution | Signed Confirmations | Sharepoint | SharePoint Scanned Document Repository |
| Daily Trading Records – Post-Execution | Terminations | Prism | Prism |
|
| Novations/Assignments | Prism |
|
| Amendments | Prism |
|
| Netting | Prism |
|
| Compression | n/a | n/a |
|
| Reconciliation Reports (TriResolve) | TriResolve | SourceOne |
|
| Valuation | Prism | Prism |
|
| Collateralization | Prism |
|
| Central Clearing |
| Daily Trading Records – Ledgers | Payments and interest received | Prism | Prism |
|
| Moneys borrowed & loaned |
|
| Daily value of each swap |
|
| Daily calculation of exposure |
|
| Daily calculation of margin |
|
| Daily calculation of collateral value |
|
| Collateral transfers |
| Daily Trading Records – Cash & Forward Txns |  | Prism | Prism |
| UTC - Quotes | Quote timestamp | Prism | Prism - Activity Browser |
| UTC - Execution | Execution Timestamp | Prism | Prism - Activity Browser |
| UTC - Confirmations | Confirm Timestamp | Prism | Prism - Trade Browser |

## Critical Third Parties

This purpose of this section is to identify potential business interruptions encountered by third parties that are necessary to the Firm’s continued operations and to provide a plan to minimize the impact of such disruptions.

As indicated in the *BCDR Policy and Procedure Manual*, this section is required to include any third party that is critical to the continued operations of the Firm’s business as they are necessary for trade execution,[[3]](#footnote-4) settlement, clearing, risk management, or regulatory reporting (a “Critical Third Party”).

Potential business interruptions encountered by a Critical Third Party could be caused by a myriad of events, including:

* Disruptions in communication networks or electrical utilities used by a Critical Third Party
* Weather or nature related events that reduce the ability of a Critical Third Party’s employees to travel or that cause other conditions, such as flooding
* Temporary disruption of a communication network or electrical utility used by a Critical Third Party
* Data breaches or other IT attacks
* Fire or police emergencies
* Chemical or nuclear accidents
* Acts of terrorism
* Pandemics

For each third-party provider, the following information is provided: (1) contact information, (2) the department that uses each application and its purpose, and (3) actionable procedures to minimize the impact of potential business interruptions that could be encountered by the third party.

If a service provider is unavailable or its performance is severely impacted, BCDR Supervisory Personnel and Critical Employees should follow the procedures documented under the provider listed below. In addition, during an emergency or other disruption, BCDR Supervisory Personnel and BCDR Critical Employees shall check the availability and performance of these service providers.

### Execution of Trades

#### Bloomberg (Trading-ETrading application)

* If Third Party is Non Performant or Unavailable:

If Bloomberg becomes unavailable, traders should trade through one of the other eight SEF’s of which the Firm is a member or through a voice broker. The Firm has Bloomberg’s BCP document on file to reference in the event of an outage.

* Contact Information:

Hajime Kawanishi (Rep):

212-617-6466 | 917-369-7018 | hkawanishi1@bloomberg.net

Help Desk: 212-318-2000

#### Maximizer (Marketing-Contact Database)

* If Third Party is Non Performant or Unavailable:

The marketers can use Prism to get their contacts if Maximizer is down.

* Contact Information:

Jon Arancio - WinTec group (Rep):

212-579-1282 x201 | jarancio@wintecgroup.com

#### MarkitWire (Trading/Operations-STP/Clearing)

* If Third Party is Non Performant or Unavailable:

The Firm has a direct T1 line in place directly to Markit as well as a backup T1. The Firm can also connect to MarkitWire via the internet if the direct lines to Markit are down. The Firm has Markit’s BCP document on file to reference in the event of an outage.

* Contact Information:

Claire Lobo (Rep):

212-205-1345 | 347-277-8034 | claire.lobo@markitserv.com

Support: 877-762-7548 | support@markit.com

#### Thomson Reuters Eikon/Eikon Excel (Trading-Market Data)

* If Third Party is Non Performant or Unavailable:

The traders will use Bloomberg swap prices in the event that Reuters is unavailable.

* Contact Information:

Peter Angelopoulos (Rep):

646-223-8534 | p.angelopoulos@thomsonreuters.com

Help Desk: 800-435-0101

#### CanDeal (Trading-ETrading Application)

* If Third Party is Non Performant or Unavailable:

Traders can trade Canadian through Shorcan, eSpeed or a voice broker.

* Contact Information:

Shirley Gallant (Rep): 416-814-7801 | sgallant@candeal.ca

Help Desk: 866-422-6332 | support@candeal.com

#### BrokerTec (Trading-ETrading Application)

* If Third Party is Non Performant or Unavailable:

Traders can trade through eSpeed or TradeWeb or a voice broker.

* Contact Information:

Brian Cleary (Rep):

201-209-7855 | 617-216-8465 | Brian.Cleary@us.icap.com

Market Support: 201 209 7900

#### Cantor eSpeed (Trading-ETrading Application)

* If Third Party is Non Performant or Unavailable:

Traders can trade through BrokerTec or TradeWeb or a voice broker.

* Contact Information:

Allie Hunt (Rep):

212-231-5681 | 646-290-4049 | alexandra.hunt@nasdaqomx.com

Support: 212-610-2300 | support@bgcpartners.com

#### FXall (Trading-ETrading Application)

* If Third Party is Non Performant or Unavailable:

Traders can contact their brokers via Bloomberg IB or via voice.

* Contact Information:

Joseph Mandarino (Rep): 646-268-9946 | 646-290-4049 | joseph.mandarino@fxall.com

Katrina Grau (Director): 646-268-9949 | katrina.grau@fxall.com

Support: 646-268-9901 | support@fxall.com

#### TradeWeb (Trading-ETrading Application)

* If Third Party is Non Performant or Unavailable:

Traders can do the same business via BrokerTec, eSpeed or Bloomberg.

* Contact Information:

Shea McCabe (Rep):

646-430-6078 | shea.mccabe@tradeweb.com

Support: help@tradeweb.com | 800-541-2268

#### Xtrader (Trading-ETrading Application)

* If Third Party is Non Performant or Unavailable:

Traders can call their brokers directly to trade. The brokers are HSBC for US and NewEdge for Canadian.

* Contact Information:

HSBC: George Savidis: 212-525-4666 | 646-704-7007 | george.x.savidis@us.hsbc.com

Mohammad Rahman | 212-525-4342 | 646-593-3778 | mohammad.r.rahman@us.hsbc.com

NewEdge: Adam Mann | 646-557-7445 | 917-902-4517

### Operations - Settlement and Clearing of Trades

#### LCH (Operations-Clearing)

* If Third Party is Non Performant or Unavailable:

Should LCH becomes unavailable, BCDR Supervisory Personnel and the Head of Operations must immediately be notified. The Operations Department, in consultation with BCDR Supervisory Personnel and senior management, shall immediately contact LCH to determine the nature and potential/probable duration of the disruption. If the disruption may adversely affect counterparties, the Operations Department, in cooperation with Front Office if appropriate, must prompltly notify counterparties so affected.

The Operations Department Operations can clear through the Firm’s FCM, Barclays through other available Designated Clearing Organizations. The Firm also maintains LCH’s BCP documentation on file to reference in the even of an outage.

* Contact Information:

If the Firm is unable to perform clearing activities, the Firm’s usual LCH representatives or the LCH Help Desk should be contacted. Should an emergency or other disruption for LCH to close or evaculate from its principal office, information to its members may be disseminated to clearing members through its Member Information Line and through its website (www.lchclearnet.com).

LCH Contact: Joann Economou (Rep):

212-513-8262 | 646-204-4562 | joann.economou@lchclearnet.com

LCH Help Desk: 212-513-8282 | +44 (0)20-7426-7545

Outside Business Hours: +44 (0)20 7426 7545

LCH Member Information Line: +44 0800 1 69 69 09

Barclays Contact: Joe Titus (Director):

212-528-7611 | 646-919-0760 | joe.titus@barclays.com

Baclays Support: 212-526-7000

#### JPMorgan BDAS (Operations-Settlement)

* If Third Party is Non Performant or Unavailable:

Operations can send payments via Swift messages or via calling or faxing JPMorgan directly. The Firm also has JPMorgan’s BCP document on file to reference in the event of an outage.

* Contact Information:

Paul J. Schmalzel (Rep): 212-623-6794 | paul.j.schmalzel@jpmorgan.com

William C Fishman (Backup Rep): 302-552-6204 | william.c.fishman@jpmorgan

Help Desk: Broker/Dealer Liaison Dept. 212-623-3209

#### CIBC Workbench (Operations-Settlement)

* If Third Party is Non Performant or Unavailable:

If CIBC becomes unavailable for an extended period of time, the Operations Department will explore becoming a member of Royal Bank of Canada’s clearing firm.

* Contact Information:

Hayden Small (Relationship Mgr):

416-643-5125 | Hayden\_Small@CIBCMellon.com

#### SWIFT (Operations-Settlement)

* If Third Party is Non Performant or Unavailable:

SMBC subscribes to the Premium Plus support on SWIFT, which means that all of the Firm’s configuration is on record with SWIFT support. For any support purposes, whether DR or not, SWIFT has a central support number (24/7) and that needs to be called. They do not have access to our BCP plans, but they do know about infrastructure and setup.

* Contact Information:

Central Support: 540-825-6056

#### Bridger Insight – (Operations – Client Onboarding)

* If Third Party is Non Performant or Unavailable:

The Client Onboarding Group can use Fircosoft or Dow Jones as a back up to Bridger.

* Contact Information:

Phil Aiello (Rep):

908-315-3565 | 908-884-1649 | Phil.Aiello@LexisNexis.com

Technical Support: 866-277-8407

#### OFAC – (Operations – Client Onboarding )

* If Third Party is Non Performant or Unavailable:

The Client Onboarding Group can use Alacra or Dow Jones as a back up to OFAC.

* Contact Information:

Technical Support: 866-237-2133

### Credit – Credit Ratings

#### Moody’s (Credit)

* If Third Party is Non Performant or Unavailable:

This website is critical to the Credit staff since they rely on it for real time credit ratings for our clients. If Moody’s is down Credit can use S&P or Fitch.

* Contact Information:

Contact: Everett Rutan (Rep):

212 553-4808 | Everett.Rutan@moodys.com

#### Standard and Poors – (Credit)

* If Third Party is Non Performant or Unavailable:

This website is critical to the Credit staff since they rely on it for real time credit ratings for our clients. If S&P is down Credit can use Moody’s or Fitch.

* Contact Information:

Contact: Philip Galgano (Rep):

212-438-2463 | philip\_galgano@standardandpoors.com

#### Fitch – (Credit)

* If Third Party is Non Performant or Unavailable:

This website is critical to the Credit staff since they rely on it for real time credit ratings for our clients. If Fitch is down, Credit can use Moody’s or S&P.

* Contact Information:

Client Services: 212-908-0800 | usaclientservices@fitchsolutions.com

### Systems Infrastructure Third-Party Contacts

#### Verizon (Voice/Data)

* If Third Party is Non Performant or Unavailable:

If Verizon is unavailable, the Firm would use AT&T for blackberry service and Century Link for its data circuits.

* Contact Information:

Premium Care: 866-825-1100

Enterprise Solution: 800-733-2006

Enterprise Solution: 800-675-9966

#### Above Net (Internet)

* If Third Party is Non Performant or Unavailable:

If Above Net is unavailable, the Firm would use our NJ site for backup internet service.

* Contact Information:

Customer Service: 888-636-2778

#### Century Link (Data Circuits/MPLS)

Century Link is our backup data circuits in NJ for HK and LN to connect to.

Contact: Customer Service – 800-776-7372

#### AT&T (Voice/Data)

* If Third Party is Non Performant or Unavailable:

If AT&T is unavailable, the Firm would use AT&T for Voice/Data

* Contact Information:

Small Business: 800-524-2455

Local Services: 800-227-3824

Network Services: 800-829-1011

#### Con Edison (Electric)

* If Third Party is Non Performant or Unavailable:

There is a generator on site at 277 Park Avenue, if there is a power loss, the backup generator would automatically turn on and keep our power running.

* Contact Information:

Customer support | 800-752-6633

## CM INC’s User Recovery Sites

### Introduction

This section specifies the purposes, scope, and guidelines of the CM Inc. user recovery sites that have been set up at the following locations: Hawthorne, New York; Wappingers Falls, NY, Princeton, NJ and Woodbury, NY (the “User Recovery Sites”), these sites will be used if the primary New York business location at 277 Park Avenue becomes unavailable. The User Recovery Sites were designed to conform to the requirements in the BCDR Policy and Procedure Manual.

### Purpose

The User Recovery Sites have the ability to perform business-critical functions during a time that 277 Park Avenue becomes unavailable. All other uses of these sites are secondary to this goal. While the User Recovery Sites have capabilities to run the Firm’s critical business functions, the backup user space location is not the same as 277 Park Avenue location as there are a smaller number of desks, phones and workstations available for employees.

Events that potentially make the User Recovery Sites unavailable include inability to access the building, bombs, bomb threats, fire, flood, widespread electrical grid failure, widespread communications network failure, and severe weather.

No immediate provision is made to immediately handle the situation that both primary and User Recovery Sites become simultaneously unavailable. If this case, the Firm would provision the SMBC Capital Markets Group’s London office to take over operations of the critical business functions.

### Business Functions Supported at Hawthorne

There are business functions that, if missing, would cost the company significant funds or put the company at immediate significant risk. These functions are deemed critical and must be supported immediately at User Recovery Sites. These functions include:

* Execution of Trades
* Settlement of Trades
* Clearing of Trades
* Risk Management
* Regulatory Reporting

### Conversion Time

As specified by the BCDR Policy and Procedure Manual, the User Recovery Sites must be made available for business use by the next business day after the occurance of an emergency or other disruption.

### Length of Time to Support Critical Business Functions

Critical functions must be maintainable indefinitely at the User Recovery Sites. As time passes more business functions would be handled with BCDR Supervisory Personnel and company management determining which departments and functions to accommodate. If it is determined that the primary space will not become available within two weeks, then additional space and other resources will be acquired as needed.

### Preparedness Level

As specified by the BCDR Policy and Procedure Manual, the User Recovery Sites are setup to meet the following requirements:

* Computer hardware is kept in good working condition to accommodate the critical business functions.
* All databases supporting applications including PRISM, Lotus Notes, ELF, etc, are replicated from the New York location and accesible at the Backup Sites.
* The latest licensed versions of all required software is installed on the workstations
* Desktop workstations and telephones are setup at all times to simplify the cutover procedure from New York
* Electrical power, with sufficient outlets, is available in each space and properly allocated.
* Dial tone telephone access, with sufficient telephone outlets and numbers, is available at each space and properly allocated.
* Market data services are available, but not immediately at usage levels matching 277 Park. Increased capacity will be obtained as required.
* As much as practically possible, the equipment at the User Recovery Sites will have production use during normal times. This guarantees that these items, as well as the supporting electrical, communications, and access services, are kept in working order without additional preparedness procedures.
* Contractual arrangements with vendors are established and maintained to support the User Recovery Sites.
* As much as practically possible, the equipment at the User Recovery Sites will have production use during normal times. This guarantees that these items, as well as the supporting electrical, communications, and access services, are kept in working order without additional preparedness procedures.

As specified by the BCDR Policy and Procedure Manual, the backup data center, in Harborside, Finicial Center in Jersey City, NJ, (see section 5.7) is setup to meet the following requirements:

* The latest licensed versions of all required software is installed on servers kept on site.
* Backup copies of software installation media are stored on site.
* Contractual arrangements with vendors are established and maintained to support the Harborside Backup Site .

### User Recovery Site Locations and Maps

#### Hawthorne, NY Backup Site Location

**Tierpoint**

17 Skyline Drive, 1st Floor

Hawthorne, NY 10532

914-592-8282

**Hawthorne Facilities Management**

Ralph Thomas

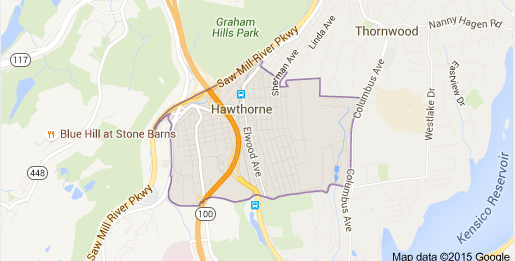
Operations Manager

11 Skyline Drive, Hawthorne, NY 10532

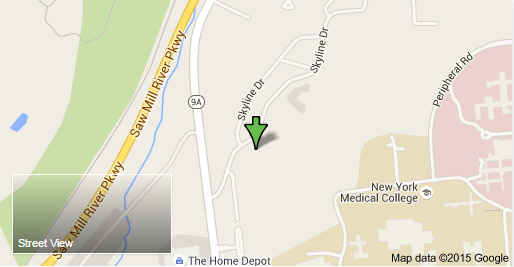
office: 914-610-7789 | mobile 484-894-6101

email: [Ralph.Thomas@tierpoint.com](mailto:Ralph.Thomas@tierpoint.com)

**Map of Hawthorne, NY:**



**Map of 17 Skyline Drive:**



#### Wappingers Falls, NY:

**Cervalis**

155 Myers Corners Road

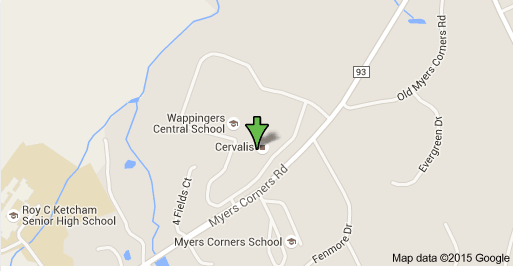
Wappingers Falls, NY 12590

866-602-2020

**Map of Wappingers Falls, NY:**



**Map of Cervalis:**



#### Princeton, NJ Backup Site Location:

**Tierpoint/ Continuity Centers**

500 College Road East, Suite 105

Princeton, NJ 08540

**Map of Princeton Backup Location:**



#### Woodbury, NY Backup Site Location

**Tierpoint/Continuity Centers**

1000 Woodbury Road, Suite 106

Woodbury, NY 11797

**Map of Princeton Backup Location:**



### CM Inc. User Recovery Sites Phone Numbers

During an emergency or other disruption that causes the Firm to implement the User Recovery Sites, the following phone lines will be immediately available in each location.

#### Hawthorne, NY:

|  |  |  |  |
| --- | --- | --- | --- |
| **Hawthorne Dial Plan - Telephone Number Assignment** | | | |
| **TierPo**int Customer Service: 484-895-3600 or 508-449-9900 | | | |
|  | | | |
| **Extension #** | **Desk #** | **Workstation ID** | **Description** |
|  |  |  |  |
| 646-874-5800 | TBD | TBD | Main telephone number |
| 5874 | 1 |  | Command Center |
| 5801 | 1 | 63 | Command Center |
| 5802 | 2 | 38 | Command Center |
| 5803 | 3 | 48 | Command Center |
| 5804 | 4 | 79 | Command Center |
| 5805 | 5 | 70 | Command Center |
| 5806 | 6 | 77 | Command Center |
| 5807 | 7 | 49 | Command Center SPARE |
| 5808 | 8 | 34 | Command Center SPARE |
| 5880 | Shared | Help Desk | Command Center |
| 5809 | 9 | 27 | Nikko ECM |
| 5810 | 10 | 54 | Nikko ECM |
| 5811 | 11 | 30 | Nikko SFG |
| 5812 | 12 | 23 | Nikko SFG |
| 5813 | 13 | 27 | Nikko SFG |
| 5814 | 14 | 25 | CM Credit |
| 5815 | 15 | 16 | CM Accounting |
| 5816 | 16 | 46 | CM Accounting |
| 5817 | 17 | 31 | CM Accounting |
| 5818 | 18 | 74 | CM AAA |
| 5819 | 19 | 41 | CM Credit |
| 5820 | 20 | 15 | CM Compliance |
| 5821 | 21 | 24 | CM Compliance |
| 5822 | 22 | 3 | CM Planning |
| 5823 | 23 | 12 | Transaction Management |
| 5824 | 24 | 73 | CM Product Control |
| 5825 | 25 | 17 | CM Product Control |
| 5826 | 26 | 11 | CM Product Control |
| 5827 | 27 | 76 | CM Product Control |
| 5828 | 28 | 1 | CM Product Control |
| 5829 | 29 | 10 | CM Marketing |
| 5830 | 30 | 58 | CM Marketing |
| 5831 | 31 | 6 | CM Trader |
| 5832 | 32 | 37 | CM Trader |
| 5833 | 33 | 14 | CM Trader |
| 5834 | 34 | 59 | CM Marketing |
| 5835 | 35 | 56 | CM Risk Mgmt |
| 5836 | 36 | 61 | CM Research |
| 5837 | 37 | 8 | CM Operations |
| 5838 | 38 | 42 | CM Operations |
| 5839 | 39 | 64 | CM Operations |
| 5840 | 40 | 55 | CM Operations |
| 5841 | 41 | 50 | CM Operations |
| 5842 | 42 | 47 | CM Operations |
| 5843 | 43 | 9 | CM Operations |
| 5844 | 44 | 2 | CM Systems Infrastructure |
| 5845 | 45 | 4 | CM Systems Infrastructure |
| 5846 | 46 | 62 | CM Systems Infrastructure |
| 5847 | 47 | 52 | CM Systems Infrastructure |
| 5848 | 48 | 7 | CM Systems Infrastructure |
| 5849 | 49 | 35 | CM Systems Infrastructure |
| 5850 | 50 | 21 | CM Systems Infrastructure |
| 5851 | 51 | 57 | CM Systems Infrastructure |
| 5852 | 52 | 26 | CM Systems Infrastructure |
| 5853 | 53 | 66 | CM Systems Infrastructure |
| 5854 | 54 | 20 | Nikko Equity Trading |
| 5855 | 55 | 72 | Nikko Equity Trading |
| 5856 | 56 | 39 | Nikko Equity Sales |
| 5857 | 57 | 69 | Nikko Equity Sales |
| 5858 | 58 | 75 | Nikko Equity Sales |
| 5859 | 59 | 51 | Nikko Operations |
| 5860 | 60 | 36 | Nikko Operations |
| 5861 | 61 | 44 | Nikko Operations |
| 5862 | 62 | 29 | Nikko Operations |
| 5863 | 63 | 43 | Nikko Equity Middle |
| 5864 | 64 | 78 | Nikko Compliance |
| 5865 | 65 | 80 | Nikko FIST |
| 5866 | 66 | 22 | Nikko FIST |
| 5867 | 67 | 71 | Nikko FIST |
| 5868 | 68 | 67 | Nikko Planning |
| 5869 | 69 | 5 | Nikko Accounting |
| 5870 | 70 | 19 | Nikko Accounting |
| 5871 | 71 | 53 | Nikko Compliance |
| 5872 | 72 | 33 | Nikko Compliance |
| 5873 | 73 | 45 | Nikko Planning |
| 5875 | TBD | TBD | SPARE |
| 5876 | TBD | TBD | SPARE |
| 5877 | TBD | TBD | SPARE |
| 5878 | TBD | TBD | SPARE |
| 5879 | TBD | TBD | SPARE |
| 5880 | TBD | TBD | HELP DESK # |
| 5881 | TBD | TBD | SPARE |
| 5882 | TBD | TBD | SPARE |
| 5883 | TBD | TBD | SPARE |
| 5884 | TBD | TBD | SPARE |
| 5885 | TBD | TBD | SPARE |
| 5886 | TBD | TBD | SPARE |
| 5887 | TBD | TBD | Command Center Conference Phone |
| 5888 | CUCM | Call Manager | Cisco Emergency Responder (911) |
| 5889 | CUCM | Call Manager | Cisco Emergency Responder (911) |
| 5890 | CUCM | Call Manager | Cisco Emergency Responder (911) |

#### Wappingers Falls, NY:

|  |  |  |  |
| --- | --- | --- | --- |
| **Wappingers Falls Dial Plan - Telephone Number Assignment** | | | |
| CyrysOne Customer Service: 888-467-8981 | | | |
|  |  |  |  |
| **Extension #** | **Desk #** | **Workstation ID** | **Description** |
|  | 1 |  |  |
| 646-874-5891 | 2 |  |  |
| 5892 | 3 |  |  |
| 5893 | 4 |  |  |
| 5894 | 5 |  |  |
| 5895 | 6 |  |  |
| 5896 | 7 |  |  |
| 5897 | 8 |  |  |
| 5898 | 9 |  |  |
| 5899 | 10 |  |  |
| 5900 | 11 |  |  |
| 5901 | 12 |  |  |
| 5902 | 13 |  |  |
| 5903 | 14 |  |  |
| 5904 | 15 |  |  |
| 5905 | 16 |  |  |
| 5906 | 17 |  |  |
| 5907 | 18 |  |  |
| 5908 | 19 |  |  |
| 5909 | 20 |  |  |
| 5910 | 21 |  |  |
| 5911 | 22 |  |  |
| 5912 | 23 |  |  |
| 5913 | 24 |  |  |
| 5914 | 25 |  |  |
| 5915 | 26 |  |  |
| 5916 | N/A |  | No physical phone |
| 5917 | N/A |  | No physical phone |
| 5918 | N/A |  | No physical phone |
| 5919 | N/A |  | No physical phone |
| 5920 | N/A |  | No physical phone |
| 5921 | N/A |  | No physical phone |
| 5922 | N/A |  | No physical phone |
| 5923 | N/A |  | No physical phone |
| 5924 | N/A |  | No physical phone |
| 5925 | N/A |  | No physical phone |
| 5926 | N/A |  | No physical phone |
| 5927 |  |  |  |

#### Princeton, NJ:

|  |  |  |  |
| --- | --- | --- | --- |
| **Princeton Dial Plan - Telephone Number Assignment** | | | |
| Continuity Centers Customer Service : 877-499-2577 or 516-622-0200 | | | |
|  |  |  |  |
| **Extension #** | **Desk #** | **Workstation ID** | **Description** |
|  |  |  |  |
| 646-874-5950 | 1 |  |  |
| 5951 | 2 |  |  |
| 5952 | 3 |  |  |
| 5953 | 4 |  |  |
| 5954 | 5 |  |  |
| 5955 | 6 |  |  |
| 5956 | 7 |  |  |
| 5957 | 8 |  |  |
| 5958 | 9 |  |  |
| 5959 | 10 |  |  |
| 5960 | N/A |  | No physical phone |
| 5961 | N/A |  | No physical phone |
| 5962 | N/A |  | No physical phone |
| 5963 | N/A |  | No physical phone |
| 5964 | N/A |  | No physical phone |
| 5965 | N/A |  | No physical phone |
| 5966 | N/A |  | No physical phone |
| 5967 | N/A |  | No physical phone |
| 5968 | N/A |  | No physical phone |
| 5969 | N/A |  | No physical phone |

#### Woodbury, NY:

|  |  |  |  |
| --- | --- | --- | --- |
| **Woodbury Dial Plan - Telephone Number Assignment** | | | |
| Continuity Centers Customer Service: 877-499-2577 or 516-622-0200 | | | |
|  |  |  |  |
| **Extension #** | **Desk #** | **Workstation ID** | **Description** |
|  |  |  |  |
| 646-874-5928 | 1 |  |  |
| 5929 | 2 |  |  |
| 5930 | 3 |  |  |
| 5934 | 4 |  |  |
| 5932 | 5 |  |  |
| 5933 | 6 |  |  |
| 5936 | 7 |  |  |
| 5940 | 8 |  |  |
| 5939 | 9 |  |  |
| 5937 | 10 |  |  |
| 5938 | 11 |  |  |
| 5931 | 12 |  |  |
| 5941 | 13 |  |  |
| 5935 | 14 |  |  |
| 5942 | 15 |  |  |
| N/A | 16 |  | No Physical Desk |
| 5943 | 17 |  |  |
| 5944 | N/A |  | No physical phone |
| 5945 | N/A |  | No physical phone |
| 5946 | N/A |  | No physical phone |
| 5947 | N/A |  | No physical phone |
| 5948 | N/A |  | No physical phone |
| 5949 | N/A |  | No physical phone |

### How to Get to the User Recovery Sites

#### Hawthorne, NY:

TierPoint is centrally located in Westchester County, 30 miles north of mid-town Manhattan and roughly 6 miles from the City of White Plains.

**Driving Instructions:**

**From Northern Westchester:**

Take the Saw Mill Parkway South to Pleasantville Road (Exit 29.) Make a left and 200 feet later make a right onto Pleasantville Rd. Take Pleasantville Road (3/4 mile) and make a left onto 9A South. Turn left onto Skyline Drive (at light).

*Alternate:* Take the Taconic Parkway South to exit 100C. Turn right onto NY-100C West. In about one mile, turn right onto NY-9A. Turn right onto Skyline Drive.

**From Southern Westchester:**

Take the Saw Mill Parkway North to Exit 25 (RT-9A). Make a left onto Saw Mill River Road/RT-9A. At the light turn right onto Skyline Drive.

*Alternate:* Take the Sprain Brook Parkway North to exit 100C. Turn left onto NY-100C West. In about one mile, turn right onto NY-9A. Turn right onto Skyline Drive.

**From Connecticut:**

Take 684 South to Saw Mill Parkway. Take the Saw Mill Parkway South to Pleasantville Road (Exit 29.)

Make a left and 200 feet later make a right onto Pleasantville Rd. Take Pleasantville Road (3/4 mile) and make a left onto 9A South. In about 1.5 miles turn left onto Skyline Drive.

*Alternate:* Take I-95 South to I-287 West. Take exit 2. Continue North on Saw Mill River Road/RT-9A for 2.2 miles. Turn right onto Skyline Drive.

**From New York City (West Side):**

Take the West Side Highway North to the Henry Hudson Parkway North. The Henry Hudson Parkway turns

into the Saw Mill Parkway North. Take exit 25. Turn left onto Saw Mill River Road/RT-9A. At the light turn right onto Skyline Drive.

**From New York City (East Side):**

Take the FDR Drive North to 87-N. Take exit 7A and merge onto the Saw Mill Parkway North. Take exit 25.

Turn left onto Saw Mill River Road/RT-9A. At the light turn right onto Skyline Drive.

**From Rockland:**

Take I-87 S / I-287 E. Take exit 8A and merge onto the Saw Mill Parkway North. Take exit 25. Turn left onto Saw Mill River Road/RT-9A. At the light turn right onto Skyline Drive.

**\*Parking is available on site**

**Public Transportation:**

From Manhattan: take Metro North (Harlem Line) to the Hawthorne Station. A taxi will need to take you to the site from the station.

**Taxi Service:**

Knapp-McCarthy Taxi Co (914) 631- 8294

Mount Pleasant Taxi: (914) 769-2306

New Town Taxi: (914) 747-0999

Leros Point to Point (914) 747-2300

#### Wappingers Falls, NY:

The best way to get to Wappingers Falls from 277 Park Avenue is by car or via Metro North. Wappingers Falls is 70 miles north of midtown Manhattan.

**\*Parking is available on site**

#### Princeton, NJ:

The best way to get to Princeton from 277 Park Avenue is by car or via NJ Transit Train. Princeton is 54 miles south of midtown Manhattan.

**\*Parking is available on site**

#### Woodbury, NY:

The best way to get to Woodbury from 277 Park Avenue is by car or via LIRR. Woodbury is 29 miles east of midtown Manhattan.

**\*Parking is available on site**

### Access to each Building

Employees should enter the main lobby go to the reception desk. Employees must bring their SMBC identification to show to security as well as a photo ID. Security will require that you sign in before proceeding to the user space.

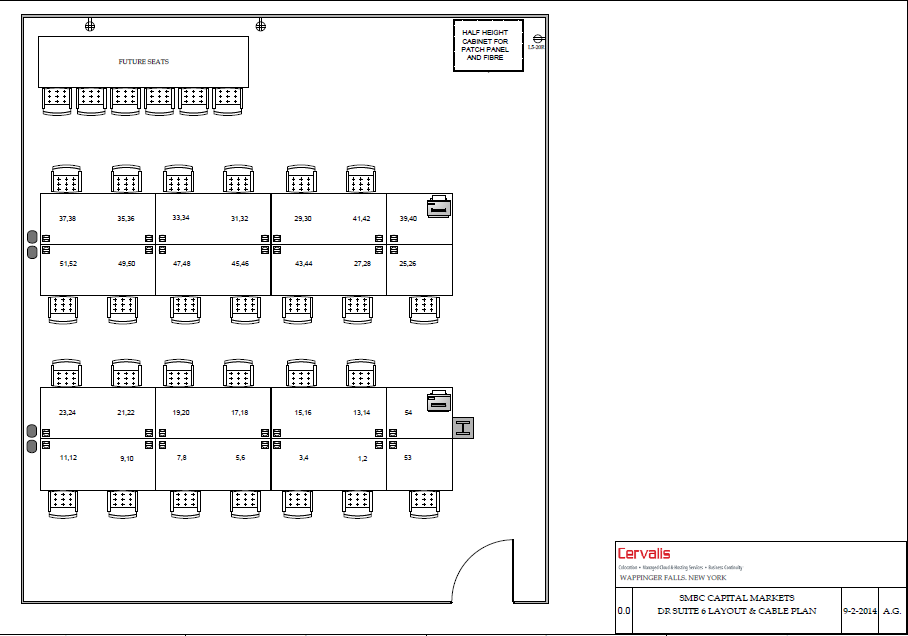
**Security Access restrictions-Wappingers Falls:** The Wappingers Falls Backup Site is closed on the weekend. For the test a list of participants is provided to the building. If your name is not on the list, you will be unable to obtain access. You will need to contact the person in charge or another member of the test to gain access to the building. The SMBC phone number at Wappingers Falls is 845-296-5425.

### Floor Plans for the User Recovery Sites

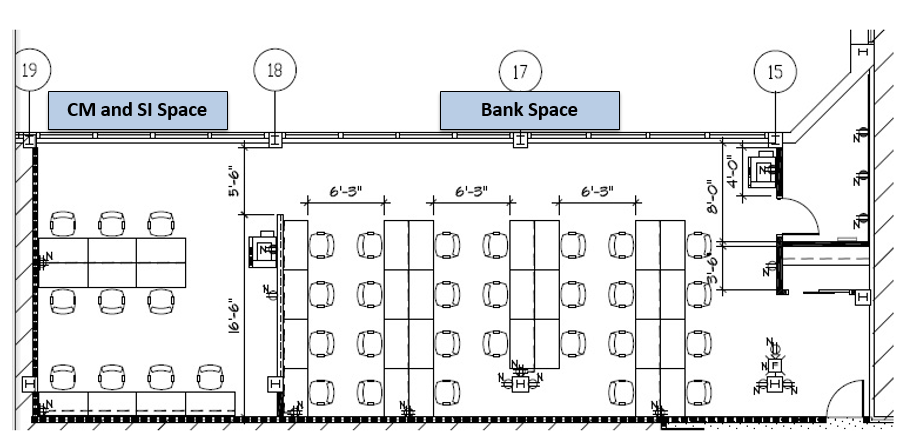
#### Hawthorne Floor Plan of the user space (65 seats):



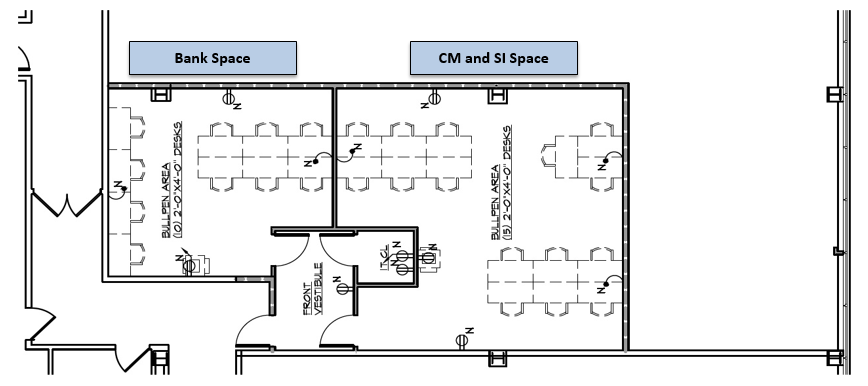
#### Wappingers Falls Floor Plan of the user space (26-32 seats):



#### Princeton Floor Plan of the user space (10 seats):



#### Woodbury Floor Plan of the user space (15 seats):



## Harborside Backup Data Center Location

**The Japan Research Institute, Limited**

New York Branch, New Jersey Center,

402 Plaza II, 4th floor,

Harborside Financial Center,

Jersey City, NJ 07311-3978

(201) 200-8200

(201) 200-1599 fax

### Introduction

This section specifies the purposes, scope, and guidelines of the CM Inc. backup site that has been set up in the Harborside facility located in Jersey City, NJ (the “Harborside Backup Data Center”) and will be used if the primary New York technology infrastructure at 277 Park Avenue becomes unavailable.

The Harborside facility was designed to conform to the requirements in the BCDR Policy and Procedure Manual.

### Purpose

The Harborside Backup Data Center has the ability to perform the function as the primary backup data center if data center at 277 Park Avenue becomes unavailable.

Events that potentially make the Harborside unavailable include inability to access the building, bombs, bomb threats, fire, flood, widespread electrical grid failure, widespread communications network failure, and severe weather.

No immediate provision is made to immediately handle the situation that both primary and the Harborside Backup Data Center becomes simultaneously unavailable. If this case, the Firm would provision the SMBC Capital Markets Group’s London office to run the critical business functions from their data center.

### Conversion Time

As specified by the BCDR Policy and Procedure Manual, the Harborside Backup Data Center must available to run the technology infrastructure by the next business day after the occurance of an emergency or other disruption.

### Preparedness Level

As specified by the BCDR Policy and Procedure Manual, the Harborside Backup Data Center is setup to meet the following requirements:

* All databases supporting applications including PRISM, Lotus Notes, ELF, etc, are replicated from the New York location and accesible at the Harborside Backup Data Center.
* The latest licensed versions of all required software is installed on the servers kept on site.
* Backup copies of software installation media are stored on site.
* Electrical power, with sufficient outlets, is available in the space and properly allocated.
* Contractual arrangements with vendors are established and maintained to support the Harborside Backup Data Center
* As much as practically possible, the equipment at the Harborside Backup Data Center will have production use during normal times. This guarantees that these items, as well as the supporting electrical, communications, and access services, are kept in working order without additional preparedness procedures.

### Harborside Backup Site Location

**The Japan Research Institute, Limited**

New York Branch, New Jersey Center,

402 Plaza II, 4th floor,

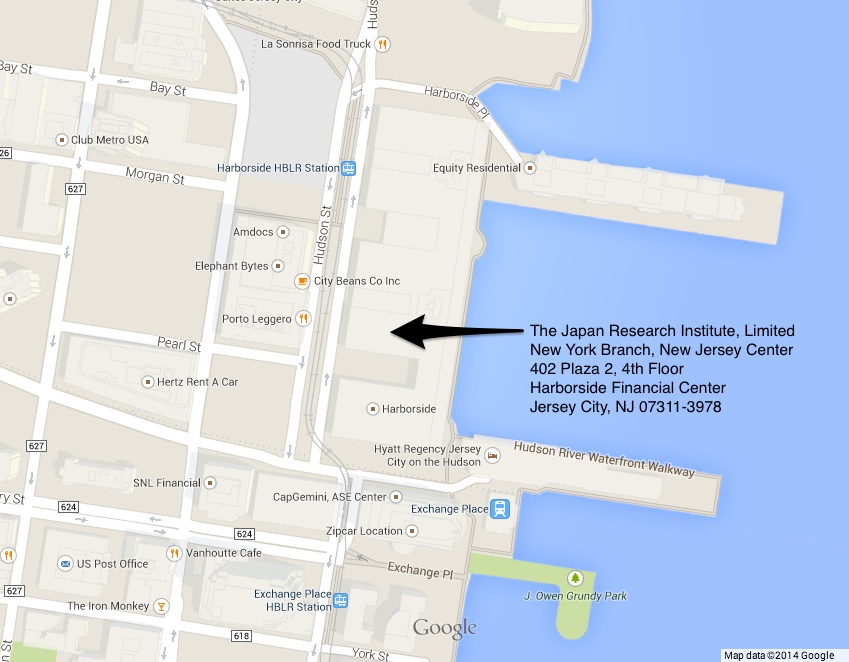
Harborside Financial Center,

Jersey City, NJ 07311-3978

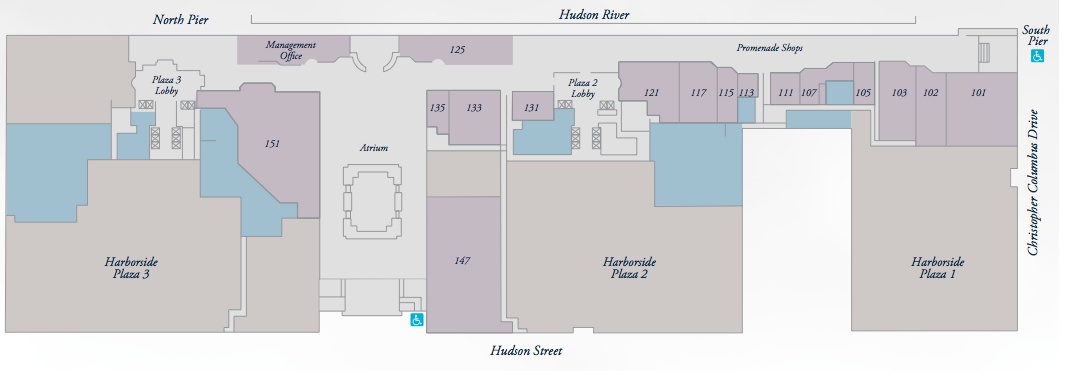
(201) 200-8200

(201) 200-1599 fax

**Map of Jersey City, NJ:**



**Harborside Financial Center Map:**



# Systems Infrastructure Backup Site Plan

This section contains detailed procedures describing how the CM Inc. Systems Infrastructure Department maintains the Harborside Backup Data Center and describes the cutover procedures to make the User Recovery Sites operational in the case of an emergency or other disruption.

These procedures are authored by the Systems Infrastructure Department and will be continually updated. For more information about this process, please see the BCDR Policy and Procedure Manual.



## Data Network

### Overview

**Harborside LAN**

This section will explain the full functionality of the BCDR LAN and MAN. There are three main components that are instrumental in the management and configuration of the BCDR LAN and MAN with its network connectivity to BCDR user locations (Wappingers Falls, Princeton, Woodbury and Hawthorne):

Cisco 4507-E-R, Cisco Nexxus 5548, Cisco ME3400 switches ( Harborside)

Cisco 3845 router (Harborside)

Cisco 4570 and Cisco 3560 switches (Wappingers Falls, Princeton, Woodbury and Hawthorne).

**The Cisco Catalyst Switches**

The Catalyst switches are the backbone of the Harborside Ethernet LAN.

There is presently 1 core Cisco Catalyst 4507-E-R switch in data center that connects to the Nexxus 5548 switch for 10 GigEth backbone for uplinks to 2 Cisco 3560’s. Switches are located in IDF closets 4A, B, provide connectivity to user desktops.

Cisco 4507-E-R switch also connects to Cisco ME3400 for MAN connectivity to BCDR user locations in Wappingers Falls, , Princeton, Woodbury, Hawthrone, San Francisco office and via Cisco 3845 over Century Link MPLS to London and Hong Kong.

All of the SMBC-CM servers at Harborside are connected to multiple VLAN's across the Ethernet segments.

**How to Log in to the Catalyst Switches**

The switches can be managed from either the Network Management stations (nyhpmgr or nycpi01) in 277 P.A., or via telnet. The super user login and the password are known to the Network group only. Once you are logged in, you can enable/disable ports or assign any port to any VLAN.

**The Cisco Router**

The Cisco 3845 and 2951 series routers in Harborside are responsible for connecting across the WAN (NY, UK, HK). Cisco Catalyst 4507-E-R is responsible for routing the LANs SMBC-CM, etc.

In disaster recovery mode, traffic to London and Hong Kong will traverse the Century Link MPLS network.

**The Cisco ASA 5510**

The Cisco ASA 5510 in Harborside has a private 100mb interface on the internal CM-LAN, and a public 100mb interface to the DMZ. The DMZ is comprised of a firewall, a Cisco 2950 router, and a 100Mbps circuit to the Zayo/AboveNet ISP.

**Harborside WAN**

This section will explain the full functionality of the Harborside WAN.

As described above, WAN access out of Harborside is achieved by Century Link MPLS network. The 100Mbps link out of Harborside to the Zayo/ AboveNet ISP serves for remote access users.

In the event of DR, dynamic routing protocol is utilized for WAN network connectivity.

See the attached Circuit list in the next section “Contacts” for individual circuit numbers.

### Maintenance Procedure

All network hardware OS configurations are maintained by Cisco Prime Infrastructure and Firemon Software Utility. Any time a configuration change is made to the running config on any Cisco network device, CPI 2.1 automatically makes a backup copy of the configuration to the CPI server. Additionally, the Firemon utility which polls CM network devices and automatically backs up all network device configurations on a weekly basis. These configurations are reviewed on a monthly basis and are available to upload via a tftp server in the event of a recovery.

### Cutover Procedure

When a decision is made to cut to a contingency mode, all New York applications will be cut over first, followed by UK and HK sites. Verizon MPLS circuits to London, Hong Kong, Sydney out of New York will be shut down. Traffic from the Harborside DR site will then use Century Link MPLS network to access London and Hong Kong.

The design is: Primary Zayo/AboveNet 1 Gbps private line and backup Verizon sonet circuit between 277 Park and Harborside; Access to Century Link MPLS network out of Harborside to London and Hong Kong.

Cutting Over the LAN:

The LAN is basically configured the same for either normal mode or contingency mode of operation. Cisco Catalyst 4507-e-r switch and the Cisco routers use their normal configuration in contingency mode.

Cutting Over the WAN:

Once we have decided that we can no longer operate out of 277 Park Verizon MPLS network access of nycisco3845-vzb-mpls wil get shut down and Century Link MPLS routes to London and Hong Kong will become primary routes

**Contact Information and Circuit Numbers**

|  |  |  |  |
| --- | --- | --- | --- |
| **Vendor** | **Contact** | **Responsibility** | **Business Phone** |
| Verizon | Premium Care | Voice / Data | (866) 825-1100 |
| Verizon | Enterprise Solution | Voice / Data | (800) 733-2006 |
| Verizon | Enterprise Solution | Voice / Data | (800) 675-9966 |
| AT&T | Small Business | Voice / Data | (800) 524-2455 |
| AT&T | Local Services | Voice / Data | (800) 227-3824 |
| AT&T | Network Services | Data | (800) 829-1011 |
| AboveNet | Customer Service | Internet | (888) 636 2778 |

**Verizon Services Circuit List**

**Circuit Number Purpose**

32KRG319118SMBC-CM HS/NY sonnet (njcisco3845-1 GigabitEthernet0/0)

ID E01517-00 SMBC-CM HS/NY 100Mbps njcisco3400

### Maintenance Procedure

All network hardware OS configurations are maintained by Cisco Prime Infrastructure and Firemon Software Utility. Any time a configuration change is made to the running config on any Cisco network device, CPI 2.1 automatically makes a backup copy of the configuration to the CPI server. Additionally, the Firemon utility which polls CM network devices automatically backs up all network device configurations on a weekly basis. These configurations are reviewed on a monthly basis and are available to upload via a tftp server in the event of a recovery.

### Cutover Procedure

**NY/NJ DR Test Network Migration/Restore and Verification Protocol:**

*Network migration and verification:*

*New York service shut down:*

* Verizon MPLS shut down – NYCisco 3845-1(telnet , 192.168.40.1) int gig 0/1 **(STEP 1)**
* VPN tunnels shut down nyasa5510-inside-dmz.sbcm.com(ASDM or ssh 192.168.102.2) int eth0/0 (public interface) **(STEP 2)**
* Verizon Sonet shut down– Cmcat1-cpu (telnet, 172.18.12.61) int gig 2/2 **(STEP 5)**
* Abovenet shut down-- Cmcat2-cpu (telnet , 172.18.12.62) int gig 9/47 **(STEP 6)**

*New Jersey service verification:*

* Verify routing from NJ HSCMCAT4507-1 (telnet, 172.18.252.1) to HK is BGP via Century Link
* Verify routing from HSCMCAT4507-1 (telnet, 172.18.252.1) to UK is static pointing to njasa5510-1-int-dmz.sbcm.com (192.168.106.2)
* Verify routing on njasa5510-1-int-dmz.sbcm.com (ASDM or ssh , 192.168.106.2) to UK (172.27.0.0/16) via public interface.
* Verify Crypto maps on njasa5510-1-int-dmz.sbcm.com (ASDM or ssh 192.168.106.2) for NJ local and Uk remote networks.
* Sungard =212.118.246.163

*Hong Kong service shut down and verification:*

1. Verizon MPLS shut down -- hkcisco2851-1(telnet, 192.168.48.1) int GigabitEthernet0/1

***<in case direct access between UK-HK is required Do not perform this step>*** **(STEP 4)**

1. Verify routing from HK HKCisco4503-1 (telnet, 172.31.10.1)to NJ via BGP Century Link

*London (99 QVS, ONC and Sungard) service shut down and verification:*

1. Verizon MPLS shut down UKQVS2851WAN01 (172.27.224.10) int GigabitEthernet0/1.1

***<in case direct access between UK-HK is required Do not perform this step>*** **(STEP 3)**

1. Century Link MPLS shut down uksgdw2851wan01 int g 0/1.1

***Service will be down automatically as a result of STEP 4***

1. Verify UKSG6509CORE02 (172.27.126.43) int gig 7/1 link to UKSG5505ASA01 (172.27.64.8) int eth 0/1
2. Verify routing on UKSG3750MAN01 (172.27.126.40) and UKSG3750MAN02 (172.27.126.41) for 172.18.0.0/16, 192.168.50.0/24 and 192.168.106.0/24 metric 240 pointing to UKSG5505ASA01 int eth 0/1 172.27.64.8
3. Verify routing on UKONC3750MAN01 (172.27.62.30) and UKONC3750MAN02 (172.27.62.31) for 172.18.0.0/16, 192.168.50.0/24 and 192.168.106.0/24 metric 240 pointing to UKSG5505ASA01 int eth 0/1 172.27.64.8
4. UKSG5505ASA01 (172.27.64.8) verify routing to 172.18.252.0/24, 192.168.50.0/24 and 192.168.106.0/24 via the outside interface (212.118.246.161)
5. Verify Crypto maps for UK local and NJ remote networks. **NJ = 64.124.14.165**

***UK-HK direct routing if required can work via VZB MPLS, in case that is enabled, please verify that NJ site routing to UK is performed to Sungard via Century Link MPLS.***

*Networks restore:*

*New York service turn up and verification:*

1. Verizon Sonet service restore – Cmcat1-cpu (telnet, 172.18.12.61) int gig 2/2 ***(STEP 1)***
2. Abovenet service restore -- Cmcat2-cpu (telnet , 172.18.12.62) int gig 9/47 ***(STEP 2)***
3. Verizon MPLS service restore – NYCisco 3845-1(telnet , 192.168.40.1) int gig 0/1 ***(STEP5)***
4. VPN tunnels service restore nyasa5510-inside-dmz.sbcm.com(ASDM or ssh 192.168.102.2) int eth0/0 (public interface) ***(STEP 6)***
5. Verify routing on NYCisco 3845-1(telnet , 192.168.40.1) for all remote routes (UK,HK,Syd) is Verizon MPLS int gig 0/1
6. Verify routing on Cmcat1-cpu (telnet, 172.18.12.61) for NJ int gig 2/2

*Hong Kong service turn up and verification:*

1. Verizon MPLS service restore-- hkcisco2851-1(telnet, 192.168.48.1) int GigabitEthernet0/1 ***(STEP 3)***
2. Verify routing on hkcisco2851-1(telnet, 192.168.48.1) for all remote routes (NY,UK,Syd) via Verizon MPLS int GigabitEthernet0/1

*London (99 QVS, ONC and Sungard) service turn up and verification:*

1. Verizon MPLS service restore – ukqvs2851wan01 int GigabitEthernet0/1, sub GigabitEthernet0/1.1 ***(STEP 4)***
2. Century Link MPLS service restore uksgdw2851wan01 int g 0/1.1

***Service will be up automatically as a result of STEP 4***

1. Verify routing on ukqvs2851wan01 for all remote routes (NY, HK, Syd, NJ) is Verizon MPLS GigabitEthernet0/1, sub GigabitEthernet0/1.1

## Prism

### Overview

The Prism SyncServer processes keep most of the tables in the Prism Databases synchronized in real time between all Prism sites (NY, NJ (NY DR), HK, London ONC, London Sungard Woking (London DR). The remaining tables, the "non-logged classes", are updated from NY (nyblprismsql01 master Prism server) to NJ (njprismsql2 server) and London DR (lnprismsql2 server) realtime using MS SQL Transactional Replication, except for the TradeRepRptText', not replicated to London.

As a contingency, if NY and NJ is not available, our BCDR plan would be to have Prism run as master out of the SMBC Nikko Capital Markets Limited London office at One New Change, London, England will permit SMBC-CM Inc. and SMBC Nikko-CM Ltd. to perform business-critical functions if a special situation makes our facilities at 277 Park Avenue, New York, NY and our Harborside Backup Data Center unavailable.

This configuration was tested on Saturday, November 8, 2014, and was a successful test. Departmental representatives successfully demonstrated that the necessary business functions in Prism will operate if the Prism master is cutover to London. The test included on site testing by London Systems staff.

### Maintenance Procedure

The non-logged classes, are updated from NY (nyblprismsql01 master Prism server) to NJ (njprismsql2 server) and London DR (lnprismsql2 server) realtime using MS SQL Transactional Replication, except for the TradeRepRptText', not replicated to London.

As of 1-Nov-13, the 23 non-logged classes are:

|  |
| --- |
| EndOfDaySummary  EndOfDaySummaryControl  EvalServer  HolidayCenter  HolidayCode  ReportArgument  ReportLastArgument  ReportQueue  ReportRequest  ResetNoticeQueue  RevalQueue  RevalSensitivity  RevalSummaryQueue  Revaluation  SimDataSet  SwapHolidayDate  SymbolicConstant  TradePricing  TradePricingCcyMTM  TradePricingUpdateLog  TradeRegRptLog  TradeRegRptText  TradeRegRptValuation |

\*\*Note Classes listed in RED are very often empty at night when the script is run.

\*\* The following queue was used to determine the non-log class:

SELECT class.name

FROM Class class

WHERE (class.flags&2048!=0) AND(class.partitio@!=2)

--and class.name <>'TradeRegRpttext'

order by class.name

CheckAllSyncs.cmd

CheckAllSyncs.cmd is a script available in NT machines in %PrismDir%\bin. The script checks the synchronization of the master database with the slaves. It is invoked from the command line with the following syntax

CheckAllSyncs

CheckAllSyncs is useful to run prior to/following a cutover to be sure that the databases are completely in sync; it is considerably more detailed than checking the maximum ids of object and commit logs. Its output goes to %PrismDir%\logs.

### Cutover Procedures

**Preparing for Contingency Site Testing**

**Rename the following DNS entries and propagate these changes throughout the network:**

* Rename*SimulationFileHost*from*nyvmdevfs1* to *njappser7;*
* Rename DistributionHost from *mercury* to *njappser1*.

**We now use nysmtpalias dns alias for indirection to nysmtp/njnotes. The following in RED is NOT NEEDED.**

**Modify, release, and distribute the SendMail1() function to force the use of njnotes as the SMTP mail server, regardless of what is passed in by the calling routine. The modification occurs in:**

* [**admin\distribution\PerlLib\MySendMail.pm**](file:///\\mercury\prismdistsrc\PerlLib\MySendMail.pm)

**Force distribution to NJ and then disable this functionality (to avoid subsequent distribution later in the evening):**

* Run [\\nyvmntlocksrv\Scheduled](file:///\\nyvmntlocksrv\Scheduled) Tasks\DistibutePrismToSiteNJ, then disable this scheduled task.
* Run [\\ nyvmntlocksrv \Scheduled Tasks\AlibCopyToAllRemoteSites](file:///\\mercury\Scheduled%20Tasks\AlibCopyToAllRemoteSites), then disable this scheduled task.

**Disable the following scheduled tasks to avoid starting production processes while the DR test is ongoing:**

* Disable [\\nyvmntlocksrv\Scheduled](file:///\\nyvmntlocksrv\Scheduled) Tasks\ManageMsimCodadJobs
* Disable [\\nyvmntlocksrv\Scheduled](file:///\\nyvmntlocksrv\Scheduled) Tasks\StartProd

**Comment out weekly jobs in Codad.**

The following maintenance jobs are kicked off from Coda. Just put jobs on HOLD to prevent them from running:

1. PurgeFolders  
   rx setstatus group prod\_fpurge HOLD
2. RunSim – daily simulation  
   rx setstatus group runsim\_prod\_nightly HOLD
3. MailPurge – group purge mail tables of deleted notes

rx setstatus group prod\_rmmail HOLD

• SimDataPurge

rx setstatus group prod\_purgesim HOLD

1. IStar Upload. – put ONHOLD the IStar script; this will result SI GL feed on Friday on the STP site and we will pick it up later after the cutback:

rx setstatus group ftp\_seoms\_nikko1 HOLD

**Install simulation software by starting the following *rx* jobs:**

* rx setstatus group contingency\_installpackage\_simulation died
* rx start group contingency\_installpackage\_simulation

**Backup all daily Elf job requests enqueued prior to the contingency test (e.g., RIF and Stress reval jobs):**

* Issue rx stop group elf\_jobsched
* rename \\ntlocksrv\prismdist\ElfJobSched\elf.job [\\ntlocksrv\prismdist\ElfJobSched\elf.job.bak](file:///\\ntlocksrv\prismdist\ElfJobSched\elf.job.bak)

Note that, in order to override the Distribution directory in PrismPackage.pm, so that the packages can get their distribution from NJ, the application servers registered in Codad should have each of the following on their command lines:

* ***--packagLanSource=\\DistributionHost\PrismDistSrc\distribution***
* ***--distributionDir=\\DistributionHost\PrismDistSrc\OnDemand***

**Just before beginning a test cut-over to the NJ continency site, kill the NY production lockserver to force all users and servers out of the system, then bring just the lockserver and syncservers up to bring the slave databases up-to-date:**

* Set CODAD\_HOST=codad-ny;
* Issue rx stop group prod
* Issue rx stop group prod\_lockserver
* Issue rx start group prod\_lockserver

Also ensure that all production *rx* processes are stopped at the LN and HK remote sites. The DNS aliases CODAD\_HOST=codad-ln and CODAD\_HOST=codad-hk can be used to help in this task.

**Contingency Site Cutover**

*Taking New York off-line*

Verify that all syncservers are up to date

**Use isql to check the CommitLog table in all production databases** (NYBLPRISMSQL01, NJPRISMSQL2, UKPRISMSQL2, LNPRISMSQL2, HKPRISMSQL2)

\*\*Note all databases are MSSQL servers, using ISQL from MS is suggested.

*select max(objectId) from CommitLog*

*select count(\*) from CommitLog*

Just checking that maximum object id on the CommitLog is not enough.

If the maximum object ids do match, but the number of CommitLogs differs between the master database and one or more of the slave databases, the CheckSync.pl script should be used to discover which tables are out of sync. The out-of-date tables must be manually synchronized by checking the objectWritten field for the most recent objects in a table and copying them to the out-of-date dataservers.

**Bring down and disable the New York lockserver and Star database via the following:**

* Issue rx ntlocksrv setstatus group prod\_lockserver HOLD
* Issue rx ntlocksrv setstatus group prod\_star\_ntlocksrv HOLD

**Truncate the CommitLog table at all sites** (NYBLPRISMSQL01, NJPRISMSQL2, UKPRISMSQL2, LNPRISMSQL2, HKPRISMSQL2)

\*\*Note all databases are MSSQL servers, using ISQL from MS is suggested.

*use production ( or the corresponding databaseserver )*

*truncate table CommitLog*

**Drop the ObjectLog table in NYBLPRISMSQL01 Database**

The ObjectLog table in the master database should be dropped before using it as a slave database to the NJPRISMSQL2 (Contingency site Master DB) server in order to insure that all commits are done through the NJPRISMSQL2 database.

*use production ( or the corresponding databaseserver )*

*drop table ObjectLog*

**BCP out all non-logged classes**

This is no longer necessary, but it is a good idea to verify that the job to automatically load them into the contingency slave ran successfully the prior night (a quick test is select max(date) from TradePricing).

**Stop the NY Codad and sync its database to NJ via the following:**

* Run the task [\\ntlocksrv\Scheduled Tasks\CodaStop](file:///\\ntlocksrv\Scheduled%20Tasks\CodaStop)
* Run the task [\\ntlocksrv\Scheduled Tasks\SyncCodadToNJAPPSER1](file:///\\ntlocksrv\Scheduled%20Tasks\SyncCodadToNJAPPSER1)

***Bringing Up the Contingency Site***

If an actual disaster occurs and it was not possible to synchronize all slave databases before the master database went off-line, a procedure similar to the one described above using CheckSync.pl must be used to bring the slave servers up-to-date with the database furthest along in commits.

**Create the ObjectLog table in NJPRISMSQL2 Database**

Run the stored procedure Prism\_CreateObjectLog in NJPRISMSQL2.production to create the table and its index.

**BCP in data for NonLoggedClasses**

This is no longer necessary, but as above one should make sure if possible that the classes were copied in successfully by the overnight jobs

**Start the NJ Codad and via the following:**

* Run the task [\\njappser1\Scheduled Tasks\CodaStartContingency](file:///\\njappser1\Scheduled%20Tasks\CodaStartContingency)

**Start the NJ contingency lockserver and syncservers:**

* rx setstatus group contingency died
* rx start group contingency\_lockserver
* rx start group contingency\_syncserver

**Note the following:**

* The browser-based interface for *rx* can be accessed from *njappser1* – <http://njappser1/rxx/nj.htm> or <http://njappser1/rxw/nj.htm> ).
* Starting process might fail because all the servers are being started on the same machine and the copying of .dlls might fail with the error: .dll file being used by someone else.
* To use tran/monitor program you might have to rebuild it with the following line uncommented,  
  #define NY\_CONTINGENCY
* The main difference between the standard configuration and Config.njprod.\* is the lockserver and DBio\_server location

|  |  |
| --- | --- |
| Lock\_serverHost | NJNTLOCKSRV |
| Lock\_serverPort | 7223 |
| DBio\_server | NJPRISMSQL2 |

**Set Folders to use backup paths for New York site folders:**

* Bring up TASK with the Config.njprod configuration file. In the Configuration panel, select ‘Edit Folder Locations’ from the ‘Edit’ menu. Set auto-backup (AB) to false and use backups (UB) to true for all New York site folder locations.

**Edit File Spool locations:**

* Bring up TASK with the Config.njprod configuration file. In the Configuration panel, select ‘Edit File Spools’ from the ‘Edit’ menu. Set the “NY Contingency” flag for all the file spools.

**Edit Simulation Templates (Publish those to be used in testing):**

* Bring up TASK with the Config.njprod configuration file. In the Configuration panel, select ‘Edit Simulation Template’ from the ‘Edit’ menu. Publish simulation templates “DR\_AAA\_LiqRsv\_SP” and “DR\_Credit.”

**Load the theta trade cache on NJAPPSER1 – NJAPPSER5**

Use the following steps to switch the production TradeCache to run in contingency mode. To play it safe, the Theta\_password for Contingency (Config.njprod) is made different from production.

1. At cutover time, we rename the following theta file from theta.dsk.prod to theta.dsk.njprod, the files are located in:

rename \\appser2\roboshare\theta\theta.dsk.prod [theta.dsk.njprod](file:///\\appser2\roboshare\theta\theta.dsk.njprod)  
rename \\appser3\roboshare\theta\theta.dsk.prod [theta.dsk.njprod](file:///\\appser2\roboshare\theta\theta.dsk.njprod)  
rename \\appser5\roboshare\theta\theta.dsk.prod [theta.dsk.njprod](file:///\\appser2\roboshare\theta\theta.dsk.njprod)  
rename \\appser8\roboshare\theta\theta.dsk.prod theta.dsk.njprod  
rename [\\appser10\roboshare\theta\theta.dsk.prod theta.dsk.njprod](file:///\\appser10\roboshare\theta\theta.dsk.prod%20theta.dsk.njprod)

rename [\\appser12\roboshare\theta\theta.dsk.prod theta.dsk.njprod](file:///\\appser12\roboshare\theta\theta.dsk.prod%20theta.dsk.njprod)

rename [\\mercury2\roboshare\theta\theta.dsk.prod theta.dsk.njprod](file:///\\mercury2\roboshare\theta\theta.dsk.prod%20theta.dsk.njprod)

rename \\nydevfs1\roboshare\theta\theta.dsk.prod [theta.dsk.njprod](file:///\\njappser5\roboshare\theta\theta.dsk.njprod)

rename \\njappser3\roboshare\theta\theta.dsk.prod theta.dsk.njprod  
rename \\njappser6\roboshare\theta\theta.dsk.prod [theta.dsk.njprod](file:///\\njappser5\roboshare\theta\theta.dsk.njprod)

rename \\njblappser1\roboshare\theta\theta.dsk.prod [theta.dsk.njprod](file:///\\njappser5\roboshare\theta\theta.dsk.njprod)

1. Start theta/tdb using contingency config files. (Easier to do it through codad )

rx start group contingency\_theta  
rx start group contingency\_tdb

1. Use tdbload verify to verify the TradeCache.

If the TradeCache is not usable, we have to reload the trade cache from scratch. This is accomplished by running the following on the machine:

(a) Theta cold start /config=njprod

(if it complains about not being able to open "%SBCMDir%\theta\theta.dsk.njprod", then just create one ( for example “touch %SBCMDir%\theta\theta.dsk.njprod”

then repeat command (a).

(b) tdbload load /config=njprod ( note, you must be running the theta for this to work! )

**Excel Reval servers**

Open [\\njntfs\data2\cross\exd\server.xls](file:///\\njntfs\data2\cross\exd\server.xls) and \\njntfs\data2\cross\exd\server7.xls at WorkSheets(“Config”) and modify the DriveMap table to make *Current* pointing to *Contingency Mode.* Save the change. ***It is likely that developer has no permission to save the file, in which case we can wait for the next day to have SysInfra group or TA to modify for us.***

**Start Prism servers:**

* The remote folders servers (remoted’s ) are started via their respective CODA’s (rx start group prod\_remoted). Everything else is started via NJ CODAD with:
* Issue rx start group contingency
* Stop the production rx jobs and start the contingency rx jobs at LN and HK remote sites (refer to *nycontingency* in LN and *contingency* in HK).

**Test remote sites:**

Log into Prism using the London and HongKong slave servers to verify that those sites will be able to logon. Use Dbio monitoring to verify that NJPRISMSQL2 is accessible and commits are done to NJPRISMSQL2:production. Also make sure the remote sites read from their respective slave dataservers (no fallback mode!).

**Cutback to New York**

The procedure for returning control to New York is nearly the reverse of the cutover to New Jersey. These instructions assume that control is being returned to New York after a contingency site test. If actual business day processing has occurred at the New Jersey site, steps need to be taken to move the non-logged classes from New Jersey to New York.

**Verify that all databases are rolled forward**

Check that the maximum CommitLog objectId and number of CommitLog are the same for all databases.

**Verify that all trade caches are rolled forward**

Check the tdbload log to ensure all Trade Caches are rolled forward.

**Truncate the CommitLog table at all sites** (NYBLPRISMSQL01, NJPRISMSQL2, UKPRISMSQL2, LNPRISMSQL2, HKPRISMSQL2)

\*\*Note all databases are MSSQL servers, using ISQL from MS is suggested.

**Drop table ObjectLog table in NJPRISMSQL2 Database**

**Create the ObjectLog table in the master database NYBLPRISMSQL01**

Run the stored procedure Prism\_CreateObjectLog in NYBLPRISMSQL01.production to create the table and its index.

**Rename the following DNS entries and propagate these changes throughout the network:**

* Rename*SimulationFileHost*from*njappser7*to *nyvmdevfs1;*
* Rename DistributionHost from *njappser1* to *mercury*.

**Enable the following scheduled tasks:**

* [\\nyvmntlocksrv\Scheduled](file:///\\nyvmntlocksrv\Scheduled) Tasks\DistibutePrismToSiteNJ
* [\\ nyvmntlocksrv \Scheduled Tasks\AlibCopyToAllRemoteSites](file:///\\mercury\Scheduled%20Tasks\AlibCopyToAllRemoteSites)
* [\\nyvmntlocksrv\Scheduled](file:///\\nyvmntlocksrv\Scheduled) Tasks\ManageMsimCodadJobs
* [\\nyvmntlocksrv\Scheduled](file:///\\nyvmntlocksrv\Scheduled) Tasks\StartProd

**Start the NY Codad:**

* [\\nyvmntlocksrv\Scheduled](file:///\\nyvmntlocksrv\Scheduled) Tasks\CodaStart

**Bring up the production lockserver on NTLOCKSRV**

**Edit Folder locations in master database**

Bring up task against the production dataserver. In the configuration panel, select ‘Edit Folder Locations’ from ‘Edit’. Set auto-backup (AB) to true and use backups (UB) to false for all folder locations in New York.

**Edit FileSpool locations in master database**

Bring up task against the production dataserver. In the configuration panel, select ‘Edit File Spools’ from the ‘Edit’ menu. Clear the “NY Contingency flag for all the file spools.

**Edit Simulation Templates (Unpublish those to be used in testing):**

Bring up TASK with the Config.njprod configuration file. In the Configuration panel, select ‘Edit Simulation Template’ from the ‘Edit’ menu. Unpublish simulation templates “DR\_AAA\_LiqRsv\_SP” and “DR\_Credit.”

**Bring up the syncservers for all slave databases by:**

**Rx start group prod\_syncservers**

**Use CheckAllSyncs.cmd to verify that all databases are in sync**

**Move back (Format Load) theta databases on all NY and NJ theta servers:**

Rename the file name back to production convention

rename \\appser2\roboshare\theta\theta.dsk.njprod [theta.dsk.prod](file:///\\appser2\roboshare\theta\theta.dsk.njprod)  
rename \\appser8\roboshare\theta\theta.dsk.njprod theta.dsk.prod  
rename [\\appser10\roboshare\theta\theta.dsk.njprod theta.dsk.prod](file:///\\appser10\roboshare\theta\theta.dsk.njprod%20theta.dsk.prod)

rename \\appser12\roboshare\theta\theta.dsk.njprod [theta.dsk.prod](file:///\\appser4\roboshare\theta\theta.dsk.njprod)

rename \\njappser3\roboshare\theta\theta.dsk.njprod theta.dsk.prod  
rename \\njappser5\roboshare\theta\theta.dsk.njprod [theta.dsk.prod](file:///\\njappser5\roboshare\theta\theta.dsk.njprod)

rename \\ nyblsqldev01\roboshare\theta\theta.dsk.njprod [theta.dsk.prod](file:///\\njappser5\roboshare\theta\theta.dsk.njprod)

**Excel Reval servers**

Open \\nynasfs2\data2\cross\exd\server.xls and \\nynasfs2\data2\cross\exd\server7.xls at WorkSheets(“Config”) and ensure that the DriveMap table has *Current* pointing to *Production Mode.* Save the change.

**Enable the task and force distribution of NY software to NJ:**

* Enable and run [\\mercury\Scheduled](file:///\\mercury\Scheduled) Tasks\DistibutePrismToSiteNJ.

**Enable the following scheduled tasks:**

* Enable [\\nyvmntlocksrv\Scheduled](file:///\\nyvmntlocksrv\Scheduled) Tasks\StartProd;
* Enable [\\nyvmntlocksrv\Scheduled](file:///\\nyvmntlocksrv\Scheduled) Tasks\ManageMsimCodadJobs.

**Start all Prism servers using:**

**hold off this until star cutover is finished!**  
Rx start group prod

**Remove HOLD status from previously modified Codad jobs:**

1. PurgeFolders  
   rx setstatus group prod\_fpurge died
2. RunSim – daily simulation  
   rx appser12 setstatus group runsim\_prod\_nightly died
3. MailPurge – purge mail tables of deleted notes

rx setstatus group prod\_rmmail died

• SimDataPurge

rx setstatus group prod\_purgesim died

1. Optimize

rx setstatus group prod\_optimize\_nymaster died

1. IStar upload

rx setstatus group ftp\_seoms\_nikko1 died

**Stop and place on HOLD the contingency jobs at all sites; enable and start the production jobs at all sites.**

Modify, release, and distribute the SendMail1() function in the module [admin\distribution\PerlLib\MySendMail.pm](file:///\\mercury\prismdistsrc\PerlLib\MySendMail.pm) to no longer direct all SMTP traffic to njnotes.

**Reinstate all daily job requests enqueued prior to the contingency test (e.g., RIF and Stress reval jobs):**

del /f /q \\ntlocksrv\prismdist\ElfJobSched\elf.job

rename \\ntlocksrv\prismdist\ElfJobSched\elf.job.bak \\ntlocksrv\prismdist\ElfJobSched\elf.job

**Run weekend jobs**

Run the weekend maintenance jobs that did not run while the contingency site testing was going on.

**Run any simulation jobs that were skipped during the test:**

1. RunSim – daily simulation:  
   rx start group runsim\_prod\_nightly
2. Run IStar Upload – the schedule job does not run until Monday. We will run it by hand to pick up Friday’s left over:  
   rx start group ftp\_seoms\_nikko1

**Cutover Procedures from NY/NJ to London**

The procedures are the same as those for the NJ prism cutover procedures. Differences are:

For non-logged classes, the London database (UKPRISMSQL2) needs to have a database subscription set up similar to NJPRISMSQL2's.

The configuration files and coda tasks should be checked by Development in advance to make sure that all systems are represented, and that (except for pointing at UK databases instead of NY/NJ) they are up-to-date with respect to what production currently requires. To the extent possible, coda tasks for the UK contingency should be defined to use the same config file in production first, and then override it with a second config file just the changes for UK contingency.

The default distribution directory in PrismPackage.pm should be overridden in the coda task definitions, so that the packages can get their distribution locally from London. Check that the processes registered in the coda database have --distributionDir=\\uksms\prismdistSrc\distribution on their command line.

The UKPRISMSQL2 database should have a stored procedure for creating an ObjectLog table.

**Star**

Like the New Jersey cutover, the Star slave theta database file will be copied and discarded after the test. Thus the preparatory step is to make sure there is sufficient disk space on the 'theta' share where the production Star is running to hold a copy of the database.

The star database in London runs on ukntstar. The theta file is \\ukntstar\theta\newstar.db.

Preparation for cutover

These procedures will generally be done the night before the test. The test itself is usually done on a Saturday morning to avoid disruption with production, and so London can participate with NY.

\*\*Note: Make sure distribution is up-to-date

**Prism and Star**

Force distribution to NJ and then disable this functionality (to avoid subsequent distribution later in the evening):

Run:

\\mercury\Scheduled Tasks\DistibutePrismToSiteUK

**Alib**

The NY Alib configuration hierarchy is synchronized nightly to UK as part of the cutover. However it is still prudent to verify that it is in sync by running the scheduled task AlibCopyToAllRemoteSites.

Disable scheduled tasks

Disable the distribution task mentioned above:

\\mercury\Scheduled Tasks\DistibutePrismToSiteUK

Disable scheduled tasks to avoid starting production processes while the test is ongoing:

\\ntlocksrv\Scheduled Tasks\StartProd

\\ntlocksrv\Scheduled Tasks\StartMsim

Comment out weekly coda jobs

The following maintenance jobs are kicked off from Coda. Just put jobs on HOLD to prevent them from running:

PurgeFolders

rx setstatus group prod\_fpurge HOLD

RunSim - daily simulation

rx setstatus group runsim\_prod\_nightly HOLD

MailPurge - group purge mail tables of deleted notes

rx setstatus group prod\_rmmail HOLD

SimDataPurge

rx setstatus group prod\_purgesim HOLD

Email/Notes

Notes is not currently in the scope of the test, so there is no need to modify the SendMail1() script in MySendMail.pm.

Stopping production processes in New York

Prior to cutting over, all Prism processes should be stopped, and the system should be brought back up with no connected users to make sure that all databases are in sync.

Force out all users and processes

Killing the NY production lockserver will force all users and processes out of the system:

rx stop group prod\_lockserver

then bring just the lockserver and syncservers up to bring the slave databases up-to-date:

rx start group prod\_lockserver

rx start group prod\_syncserver

once the sync servers have had time to roll forward completely (use the tran/monitor.exe program to verify that this is the case) they should be brought down again:

rx stop group prod\_lockserver

Verify that all databases are in sync

Use isql to check the CommitLog table in all production databases (NYBLPRISMSQL01, NJPRISMSQL2, UKPRISMSQL2, LNPRISMSQL2, HKPRISMSQL2)

(Note: all databases are MSSQL servers, using ISQL from MS is suggested.)

select max(objectId) from CommitLog

select count(\*) from CommitLog

Just checking that maximum object id on the CommitLog is not enough.

If the maximum object ids do match, but the number of CommitLogs differs between the master database and one or more of the slave databases, the CheckSync.pl script should be used to discover which tables are out of sync. The out-of-date tables must be manually synchronized by checking the objectWritten field for the most recent objects in a table and copying them to the out-of-date dataservers.

Truncate the CommitLog table in all production databases

Truncate the CommitLog table at all sites (NYBLPRISMSQL01, NJPRISMSQL2, UKPRISMSQL2, LNPRISMSQL2, HKPRISMSQL2)

(Note: all databases are MSSQL servers, using ISQL from MS is suggested.)

use production (or the corresponding databaseserver)

truncate table CommitLog

Drop the ObjectLog table in NYBLPRISMSQL01

The ObjectLog table in the master database should be dropped before using it as a slave database to the NJPRISMSQL2 (Contingency site Master DB) server in order to insure that all commits are done through the UKPRISMSQL2 database.

use production ( or the corresponding databaseserver )

drop table ObjectLog

BCP out all non-logged classes

This is no longer necessary, but it is a good idea to verify that the job to automatically load them into the UK contingency slave ran successfully the prior night. As a quick test in the slave database one can do:

select max(date) from TradePricing

which should show the most recent business day.

Backup Elf job requests

Backup all pending daily Elf job requests enqueued prior to the contingency test (e.g., RIF and Stress reval jobs) so that they can resume after it finishes:

rename \\ntlocksrv\prismdist\ElfJobSched\elf.job \\ntlocksrv\prismdist\ElfJobSched\elf.job.bak

**Cutting over to London**

If an actual disaster occurs and it was not possible to synchronize all slave databases before the master database went off-line, a procedure similar to the one described above using CheckSync.pl must be used to bring the slave servers up-to-date with the database furthest along in commits.

NOTE: the following assumes that all NY prod processes are down. It is a good idea to put the production lockserver on hold, especially if the network link between NY and London is left up.

Copy the Star file

The star theta file can get very big (many gigabytes), so it is a good idea to start the copy early. (To save time in the morning this can also be done on the Friday evening before the test when everything is still in production mode by taking just the London star slave down, under the assumption that the London business day has long since finished and no one in London will need Star between the end of New York's day on Friday and Saturday morning.)

rx ukntstar stop group prod\_star\_ukntstar (if it is not already down)

on ukntstar:

e:\thetadata> copy newstar.db newstar.master.db

Create a DNS alias for elfjobsched

In production mode, elfjobsched points at the NY host for the Elf job scheduler. The alias must be changed in London to point to the London host. If the DNS resolution order has ln.smbc-cm.com first, then the change can be done locally to London.

Create the ObjectLog table in UKPRISMSQL2 Database

Run the stored procedure Prism\_CreateObjectLog in UKPRISMSQL2.production to create the table and its index.

Start the UK production lockserver

There should be an entry in Codad already set up for the lockserver. Start it with:

rx lnprismdev start group ukcontingency\_lockserver

Start syncservers by:

rx lnprismdev start group ukcontingency\_syncserver

Note/Warning:

• Starting process might fail because all the servers are being started on the same machine and the copying of .dlls might fail with the error: .dll file being under use by someone else.

• To use the tran/monitor.exe program you might have to rebuild it with the following line uncommented,

#define UK\_CONTINGENCY

The main difference between the standard configuration and Config.ukprod.\* is the lockserver and DBio\_server location:

Lock\_serverHost lnprismdev

Lock\_serverPort 7223

DBio\_server UKPRISMSQL2

Load the theta trade cache

Method 1: cold start theta

There is currently no production trade cache running in London, so there is no need to save copies of theta disk files as we do for the New Jersey cutover. Instead, we can just cold start the theta and load it:

theta cold start /config=ukprod

tdbload load /config=ukprod

and then start tdb:

rx start group ukcontingency\_tdb

if theta dies for whatever reason, it can be warm restarted using the coda group:

rx start group ukcontingency\_theta

Method 2: warm start an existing production theta

To save time during the cutover, a production theta/tdb could be arranged to be running in advance on the machine targeted for ukcontingency\_tdb. If this is true, then one can do the following.

(1) make sure that the prod tdb and theta are stopped. (They should be after the prod stop above.) If they are not:

rx <machine> stop group prod\_tdb

rx <machine> stop group prod\_theta

(NOTE: if the roboshare is unavailable, the file is %SBCMDIR%\theta\theta.dsk.prod)

(2) start theta and tdb using the ukcontingency coda groups:

rx start group ukcontingency\_theta

rx start group ukcontingency\_tdb

(3) After tdb has rolled forward any logs (it will report these in its log file), stop it again and use 'tdbload verify' to verify the trade cache

rx stop group ukcontingency\_tdb

cd %PrismDir%\prodTdbLoad

tdbload verify /config="production prod.uk"

(4) If the trade database verifies OK, start tdb again:

rx start group ukcontingency\_tdb

if there are differences, it may need to be cold started and loaded from the new UK master.

f) Start the rest of the ukcontingency processes

(NOTE: before doing this, make sure the copy of the star theta file has finished from earlier, or Star processes won't come up)

Star the rest of the ukcontingency coda processes with:

rx start group ukcontingency

Verify that everything is the ukcontingency hierarchy is running.

Test remote sites

• Log into Prism using the Hong Kong slave server (from an HK machine) to verify that those sites will be able to use Prism in slave mode to London. Do the same for New York, since the link is kept up for the test.

• Use Dbio monitoring to verify that UKPRISMSQL2 is accessible and commits are done to UKPRISMSQL2.

• Make sure the remote sites are reading from their respective slave dataservers. There is no secondary fallback mode for the HK master, so if NY and NJ are properly down there is no danger of London clients coming up in fallback mode.

There is one Prism Database server in New Jersey, on the machine NJPRISMSQL2. The cutover involves promoting this to "master" from its normal role as a "slave". Details are in the Development Contingency document, in the CMWiki, for the procedures to be followed.

Outlines of the procedures for the London Master Recovery are listed below:

• Update the njprismsql2 server to have the latest "non-logged" classes from nyblprismsql01, this is done by a DTS job publishing from nyblprismsql01.

• Verify all data servers are at the same object id in the CommitLog.

• Stop the "world". (Lock server down, all sync servers down.)

• Verify all data servers continue to be at the same object id in the CommitLog. (Possibly bring back syncserver and lockserver briefly.)

• Truncate the CommitLog table everywhere.

• Drop ObjectLog in the current master, nyblprismsql01.

• Create ObjectLog in the new master, njprismsql2.

• Restart the lock server and sync servers in NJ, on njntlocksrv, using NJ configuration.

• Verify; test Prism task etc using "Config.njprod", task.exe /config=njprod.

The Prism database production servers are:

1. nyblprismsql01 (New York)
2. njprismsql2 (New Jersey, SQL 2008)
3. ukprismsql2 (London production, SQL 2008)
4. lnprismsql2 (London backup, SQL 2008)
5. hkprismsql2 (HongKong, SQL 2008)

a) Changing Prism Folders Locations

The change in the Folders configuration described here is carried out by the Development group, as part of their cutover/cutback procedures. We describe it here for possible use in troubleshooting.

The configuration for Folders is found under Prism Task, from "Configuration" -> "Edit" -> "Edit Folder Locations", which brings up the "Folder Location Table". This table already contains the NY and NJ path names (UNC Names) needed for Prism to find Folders. To actually make the switch so that Prism uses the NJ resources, 2 changes are needed:

1. Set the "UB" (use backup) flags for all the Folder volumes whose site is "NewYork". (NJ counts as "NewYork" for this Prism site variable. This will change the paths used for access to Folders files from using the NY paths to the NJ paths. This also ensures the NJ servers are used for the "Server" and "RunChgPerms" columns.)

2. Turn off the "AB" flags for all the Folder volumes whose site is "NewYork". (This disables the backup copying function of remoted.)

\*\* NOTE: Once the emergency is over, these changes should be reversed.

## Elf GL

### Overview

The production Elf G/L file system is sync’d to a contingency file system in NJ in order to allow “promoting” the NJ filesystem to be the production data in the event of an inability to access the data in NY.

### Maintenance Procedure

The Elf G/L databases in production on [\\nynasfs2\eurocur\Accounting](file:///\\nynasfs2\eurocur\Accounting) are sync’d in “real time” to our NJ Contingency filesystem on [\\njntfs\eurocur\elf\accounting](file:///\\njntfs\eurocur\elf\accounting) via an “in-house” application nano.exe. The process is run/monitor’d via our “in-house” process control software called “Coda”. The process is registered in “Coda” with resource name “elf\_sync\_accounting\_nj”.

All other G/L tools, i.e. Excel spreadsheets, on the file system are sync’d nightly to NJ via Infrastructure robocopy jobs.

The same 2 Elf G/L applications ( Elf JE, Elf Reval ) are used regardless of whether the production data resides in NY or NJ. They are distributed to both NY and NJ machines nightly via our standard application distribution process.

### Cutover Procedure

In the event of a need to cutover to the NJ file system, the sync’d from NY ( both the Elf DB sync’ing and the nightly distribution ) to NJ would need to be stopped/un-scheduled.

The users would then access the NJ file system with the 2 Elf G/L applications by immediately selecting the menu option “Switch to DR directory/Contingency mode” after starting the application.

## STAR

### Overview

The Star system operates on a database image that contains both code and data, and is synchronized between primary and backup sites in a master-slave relationship. In a disaster, the only step necessary is to change config files in the backup site in order to bring the slave image up in master mode.

### Maintenance Procedure

The Star production master database is a Theta database on *ntstardb* (*nyvmntlocksrv*). The contingency site database resides on *njappser4*, and in normal operation it is a full slave of the production master, updated in real time. Note that, in what follows, *njsimdb* is routinely mentioned. In fact, *njsimdb* is aliased to *njappser4* via DNS.

### Cutover Procedure

For the contingency site testing, we actually use a copy of the slave database running on *njappser4*. During the test, the NJ server will be the only Star database in use. We do not bother running the slaves in New York, London, and Hong Kong because, in case of a disaster, we would have no NY systems available. Instead, we would cold start the UK and HK servers point them to the NJ master. Once the test is finished, we simply give up the copy of the slave used for the test.

The only thing the contingency site slave Theta server needs to become the master database is a different config file. This file is called Config.njsimdbStar.master. This file should mirror Config.njsimdbStar EXCEPT, the five entries at the end should be commented out (or removed):

;;for contingency mode slave

Theta\_fullSync = 1

Theta\_site = 5

Theta\_masterSite = 1

Theta\_masterServerHost = ntstardb

Theta\_masterServerPort = 9090

In addition, it is wise to modify Theta\_password in order to prohibit any production Star processes from gaining entry to the Theta database.

The client workstations (presumably NT machines) must contain the proper distribution package for production star (StarProd) and a contingency configuration file (called Config.star.njprod). The contingency configuration file should mirror the production one (Config.star.prod), containing the modified Theta\_password referenced above, as well as the following difference:

Theta\_serverHost = njsimdb

Before cutover, it should be verified that Star can run against the slave Theta server and that the config files connect to the proper Prism database (e.g., once connected, PrismTransaction new close connects to the NJ database properly and does not crash).

For the purposes of contingency site testing, we use a copy of the Star database that we will essentially throw away after the test. We do this because we do not want information which was saved in Star during testing to be synced back to production Star.

There are additional procedures *if we are going to use the original slave DB for the test*, instead of a copy:

If the actual slave DB is being used for the test, then prior to cutover make all users (except yourself) inactive in *NY production Star*. Do this in order to prevent users from committing into the NJ slave when that slave becomes the master. When we cut back, reinstate the original users permissions. (This step is only necessary if the real slave DB is used during the test. Because we advocate using a copy of the slave, this step can be skipped).

The New Jersey Star database resides in file *newstar.db*, usually in directory SBCM/theta of *njsimdb*. A few days before the test, the developer responsible for Star testing should make sure there is enough disk space on that machine (or on some machine in the New Jersey network) to make a disk copy of *newstar.db*. Note that, if necessary, disk space can be reclaimed at the time of cutover by destroying the (now one day old) Star production slave backup stored in *\\njappser4\c$\ThetaBackup\newstar.db.*

A copy of the current Star slave Theta database itself should be made as part of the cutover procedure.

**Contingency Site Cutover**

The first step is to confirm that the NJ slave is in fact in sync with production. The easiest way to do this is to use the Theta command utility (from V:\newtheta\command.exe) with Config.star.prod and Config.star.njprod in turn and verify that the checkpoint time is the same (or at least within a few seconds), and number of objects and pages allocated are identical:

set TRANCONFIG=%PRISMDIR%\config\Config.star.prod

command status

set TRANCONFIG=%PRISMDIR%\config\Config. njappser4star

command status

Next, stop the NY and NJ Theta servers:

rx stop group prod\_star

It is advisable to stop and disable the production Star Theta servers in New York, London, and Hong Kong during contingency testing to eliminate the possibility of making these databases inconsistent (e.g., with commits made by the temporary New Jersey master):

set CODAD\_HOST=codad-hk

rx stop group prod\_star

rx setstatus group prod\_star HOLD

set CODAD\_HOST=codad-uk

rx stop group prod\_star

rx setstatus group prod\_star HOLD

set CODAD\_HOST=codad-ny

rx stop group prod\_star

rx setstatus group prod\_star HOLD

When you are certain there are no processes running which are writing to the Star database (master or slaves), make a disk copy of the New Jersey Star db ([\\njappser4\roboshare\theta\newstar.db](file:///\\njappser4\roboshare\theta\newstar.db)). Given the size of the Star database, it will be much faster to make the required copy of the database directly on njappser4. To do that:

mstsc /v:njappser4

cd c:\sbcm\theta

rename newstar.db newstar.db.backup

copy newstar.db.backup newstar.db

It is advisable to run md5sum on each database and compare the outputs to ensure there are no differences:

md5sum –b newstar.db.backup

md5sum –b newstar.db

Restart the start theta using contingency master configuration, the easiest way is use predefined rx resource:

rx start group contingency\_startheta

Now, start up a Star session against the slave and do some testing:

RunPrismPackage --package=StarProd --config=star.njprod

**Cutting back to New York**

Use rx to stop and disable the NJ contingency test Star server:

rx stop group contingency\_startheta

rx setstatus group contingency\_startheta HOLD

Restore the copy of the Star database made during cutover. Note that the Star database used during the contingency test may be thrown away:

del /f /q \\njappser4\roboshare\theta\newstar.db

rename \\njappser4\roboshare\theta\newstar.db.backup newstar.db

Enable and start the production Star Theta servers at all sites:

set CODAD\_HOST=codad-ny

rx setstatus group prod\_star died

rx start group prod\_star

set CODAD\_HOST=codad-hk

rx setstatus group prod\_star died

rx start group prod\_star

set CODAD\_HOST=codad-ln

rx setstatus group prod\_star died

rx start group prod\_star

Now, start up a Star session against the master and do some testing:

RunPrismPackage --package=StarProd --config=star.prod

## Simulation

### Overview

All the simulation resources use the Msim.pm Perl module. This module references all its resources relative to the SimulationFileHost DNS entry.

The primary motivation for this architecture was to encapsulate all the changes required for running from the contingency site into a single DNS entry.

However, the propagation of the DNS entry change was not as seamless as originally anticipated.

So, instead, we moved to the use of a second DNS entry ( SimulationFileHostDR ) and a second Perl module ( MsimDR.pm ).

While not as elegant as the original solution, the current architecture minimizes the steps involved in cutting over to the contingency site and cutting back to New York.

### Maintenance Procedure

The maintenance of the contingency software, scripts, and configuration effectively happens "on demand" during cutover using the "installpackage" resources.

### Cutover Procedure

After following all the other steps in the BCDR plan to cut over to the contingency site, the only remaining steps specific to the simulation are the following:

1) copy \\SimulationFileHostDR\simulation\MsimToolsProd\MsimDR.pm to \\SimulationFileHostDR\simulation\MsimToolsProd\Msim.pm

2) rx start group contingency\_installpackage

3) change "Msim" file spool to contingency

4) publish DR simulation templates

5) use "evalMonitor.exe /config=njprod" to clean up entries for New York resources

6) rx start group contingency\_credit

And after following all the other steps in the BCDR plan to cut back to New York, the only remaining steps specific to the simulation are the following:

1) change "Msim" file spool to production

2) unpublish DR simulation templates

3) use "evalMonitor.exe /config=prod" to clean up entries for contingency resources

4) rx start group prod\_credit

## Alib



### Overview

The Alib is the Analytics Library whose underlying pricing routines are used by virtually all SMBC-CM’s systems (S7 for Front Office, Prism and Star from Middle and Back Offices) to generate prices and risk for our production deals. It is a DLL containing (3) distinct interfaces:

1. a C interface, callable directly from C programs (used by Prism and Star),
2. a COM/OLE interface, callable from VB.VBA and all other Microsoft supported languages,
3. an Excel interface callable directly from within Excel spreadsheets (like S7).

### Maintenance Procedure

Just to be thorough, the NY Alib configuration hierarchy should be synchronized to NJ as part of the cutover. This can be accomplished by invoking [\\mercury\Scheduled Tasks\AlibCopyToAllRemoteSites](file:///\\mercury\Scheduled%20Tasks\AlibCopyToAllRemoteSites).

### Cutover Procedure

On startup, the Alib needs to load a configuration file in order to determine where on the network to load its static data (currency and curve configurations and basic calendars). The configuration file it needs is in %PRISMDIR%\config and its name depends on the site in the following way:

**Site Configuration File Name**

NewYork Config.alib

New Jersey (Harborside) Config.alib.nj

London Config.alib.uk

London (Telehouse) Config.alib.ln

Hong Kong Config.alib.hk

In New York, Config.alib will cause Alib to load its calendars and static data from a file system hierarchy rooted at \\nynasfs2\eurocur\alib. Alternatively, Config.alib.nj will cause Alib to load its configuration from a New Jersey file system rooted at \\njntfs\eurocur\alib. Conveniently, no change is required in order to accomplish this as the environment variable Alib\_Config=%PrismDir%\config\Config.alib.nj is defined on each NJ machine. This environment variable takes precedence and overrides the mechanism normally utilized in locating the Alib configuration file. The \\njntfs\eurocur\alib file system is mirrored each night (daily) from New York.

Should problems arise in locating the New Jersey Alib configuration file on a given New Jersey machine, two work-arounds are possible. Either (1) the %Alib\_Config% environment variable must be defined on this machine, as described above; or (2) the contents of %PrismDir%\Config\Config.alib.nj must be copied to %PrismDir%\Config\Config.alib on this machine in question.

## Lotus Notes



### Overview

Lotus Notes files reside on the users network drive (or their N:\Lotus\Notes\Data drive). The files are replicated between NY and NJ nightly.

For use at the Contingency Site, there are NO changes required to the Lotus Notes data directory

### Maintenance Procedure

Lotus Notes Servers in Harborside are production servers. They maintain active connections to the Lotus Notes Servers in the NY Data Center and house database replicas of all mail files and business critical application databases. Because these servers are part of the “Notes Cluster”, no additional configuration is needed. The Notes client is aware of all of the Servers that are members of the cluster and will automatically connect to the DR server in the event the production servers are inaccessible.

OS patching is performed on a regular basis along the same schedule as out production environment.

### Cutover Procedure

**Lotus Notes - Server communication**

There are a large number of Server Connection Documents in the CapMkts Lotus Notes Directories (Address Books) pertaining to server-to-server communication while using the Contingency Site. All of the Connection Documents that refer to Contingency Site Notes Servers are disabled in normal production operation.

For use at the Contingency Site, Server Connection Documents for the server NJNotes that allow for communication with Notes servers in the London and Hong Kong Offices, SMBC Branch offices, and other SMBC Subsidiaries will need to be enabled. This should be done in accord with the servers and sites that are currently available and cannot be completely planned before an event takes place. After use of the Contingency Site, Server Connection Documents should be returned to their state prior to the contingency situation.

**Lotus Notes - User Access to Mail files**

All production user mail files are replicated to the server NJNotes for use at the Contingency Site.

NJNOTES is now part of the NY Notes Cluster, there are no configurations changes required on the NJ Notes Client side because the cluster.ncf file contains all of the Lotus Domino Cluster configurations, therefore, if NYMAIL and NYAPPS are not available, then the user is automatically redirected to NJNOTES. The user does need to exit out of lotus notes client to authenticate with NJNOTES.

**Lotus Notes - User Access to Databases**

All production Notes Databases are replicated to the server NJNotes for use at the Contingency Site.

Contingency copies of Notes databases will be found under the same path as the database is located in the Production Site, with the name of the production server inserted into the path, i.e. the file \CapMkts\Systems\BlockedM.nsf on server NYApps will be found on NJNotes under \NYApps\CapMkts\Systems\BlockedM.nsf

**Lotus Notes - Fax Server**

The New Jersey Fax Server is operational as of March 2004. The inbound DID extensions for the NJ Fax Server are 3486, 3487, 3488, 3489. The external phone numbers for these extensions are (201) 577 3486, 3487, 3488, 3489. The Extension 3486 is currently assigned to the NYSystemsFax mailbox and mail routing from New Jersey will allow any faxes received there to be properly routed. In order to assign other NJ Fax extensions to a given CM Fax Inbox, please follow the example used on the current NYSystemsFax addess entry in the CMFax Directory. The entry to be edited is the Fax Phone number on the WORK tab under the Work/Home information in the Person Document.

Other configurations on the NJ Fax Server are largely replicated from the NYFax Server. Note that ALL lines are set to receive, while lines 6 and 7 are set to send only.

To use Prism Fax Out - reset Prism config variables Folder\_faxOutSpool and Folder\_faxAutoSend to shares on NJ Fax Server. The directory which Folder\_faxOutSpool points to can be any shared directory with a lot of spaces and NJ Fax Server must be able to see the path. Folder\_faxAutoSend directory must point to the autosend directory on NJ Fax Sever and it must be shared to everyone.

## SourceOne



### Overview

SourceOne provides access to archived email, files and Microsoft SharePoint content. It also provides document retention, full text indexing and legal holds.

### Maintenance Procedure

Source One data archived to the Data Domain is automatically replicated to a Data Domain in NJ. This replication occurs in real time.

To make cutover easier, Source One has been configured to use DNS aliases within the configurations. This means that we only need to change dns aliases to get the application pointing to NJ resources. The Source One servers in NJ are running as warm standby servers. The Servers are up and running and get patched according to policy. When needed, they will be activated by the application and begin processing.

### Cutover Procedure

Step 1: Ensure EMC SourceOne processing is stopped at the disaster recovery site

Step 2: Ensure replicated data is accessible at the disaster recovery site

1. All of the SourceOne Raw Lun Devices LUNS (Replicated via EMC Recovery Point NY <==> NYJ) from the NYVMSOneMaster Server are available and mounted onto NJVMSONEWEB1.
2. All of the Bankend SourceOne data from NY EMC Data Domain is fully replicated over to NJ EMC Data Domain.
3. Create and update any DNS and it's Alias

Step 3: Ensure all SourceOne dependent systems are online and accessible

Step 4: Start all SourceOne servers. Do not start the SourceOne services.

Step 5: Logon to a SourceOne Archive Server and use SourceOne Archive Integrity tools to check the consistency of the production environment. The tool will check the databases, index share, and container share. The tool will identify and correct consistency issues and generate logs.

Step 6: Start SourceOne Services

Step 7: If needed, replay journaling from the soft delete for each exjournal(x).nsf database

Step 8: Run the SourceOne Management Console and perform reprocessing

Step 9: Verify SourceOne operations

## SharePoint



### Overview

SharePoint is the document storage/management system in Capital Markets. The DR SharePoint environment requires NJSP01 (the NJ SharePoint server) and NJSQL00 (the SQL database contains the SharePoint configuration and serves as the repository for all documents.) The NJSP01 server runs Win2k3 with IIS, SharePoint 2007 and Knowledge Lake Viewer.

### Maintenance Procedure

The NJ SharePoint configuration is very similar to the NY SharePoint configuration. On a nightly basis, the is a SQL replication jobs that copies all new document images, metadata and configurations – from NYSQL01 (the NY SQL server) to NJSQL01 (the NJ SQL server).

### Cutover Procedure

To retrieve documents from SharePoint while in DR:

Open Internet Explorer

Click Favorites -> SMBC-CM Web Links -> SharePoint Document Management -> Harborside -> NJ – SharePoint DMS

## UNIX Systems

### Overview

**Configuration Notes**

We give a table of equivalent machines or services. In general, it should be obvious what to do or change. There are two intergates in NY, but one in NJ, which is on a 100Mb circuit to Abovenet, since 2012.

**Network Services:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Service** | **NY Location** | **NJ Location** | **Remarks** |
| **DNS** | ns1=172.19.10.201 | ns2=172.18.252.201 | Aka nytru1/nyrhfs1, njtru1/njrhfs1 respectively. |
| **YP** | nytru3 nytru1 | njrhfs2 njrhfs1 | Used by UNIX Servers only. |
| **Ironport Mail Appliance** | nyironport1nyironport2 | njironport | Default mail sender, NJ: mx3.smbc-cm.com, Mail Block here. |
| **Internet Web Proxy** | nywebsec1:80 nywebsec2:80 | njwebsec1:80 | IP is 172.18.252.207. |
| **Internet Socks Proxy** | intergate-iv:1080 intergate-ii:1080 | intergate-iii:1080 |  |
| **Citrix NetScaler** | remote.smbc-cm.com 64.74.45.147, 64.124.14.147 | remote.smbc-cm.com 64.124.14.172 | Remote user connections using Citrix Receiver. Same name, GSLB maps to physical IP. |

Any Trading or STP applications using the NY Intergates (172.19.10.207, 172.19.10.208) for relays or stunnels should use 172.18.252.209 (njintergate, or intergate-iii) instead. The same port numbers are in use in NJ as in NY. For example the BES relay is in production use from njvmbes through 172.18.252.209:3101.

The external address of intergate-iii=NJIntergate is 64.124.14.167, the external address of njwebsec1 is 64.124.14.170. are given so that any Trading applications (e.g., TradeWeb, FXAll) requiring registration of "our" address can be setup in advance. This shouldn't be needed, if one gives the full external range 64.124.14.160/28 to the vendors in advance.

**Internal Web Services**

The next table shows internal web services, mostly for systems use only.

|  |  |  |  |
| --- | --- | --- | --- |
| **Web Service** | **NY URL** | **NJ URL** | **Remarks** |
| **Market Data** | | | |
| **MarketData Services Index Page** | <http://intranet2/> | <http://njintranet2/> | Links to MarketView etc. |
| **MarketView** | <http://intranet2/marketview.cgi> | <http://njintranet2/NJ-marketview.cgi> | NJ does not support DTS\_SSL (Fox Dealing for TD). |
| **Monitoring Services** | | | |
| **Samba Status Viewer** | <http://nytru1/SmbView/> | <http://njtru1/SmbView/> | SMB File System Usage |
| **MRTG** | <http://nytru1/MRTG/> | <http://njtru1/NJ-MRTG/> | The NJ version only reports on jobs run in New Jersey, mostly, on njtru1 |
| **Systems Paging** | <http://pager/> (client68) | <http://njpager/> | On njtriapps1-1. |
| **Remote Access Dashboard** | <http://nytru1/Dash/> | <http://njtru1/Dash/> | Remote access connections and log views. |
| **Documentation** | | | |
| **Intranet** | <http://intranet/> | <http://njintranet/> | Links to UNIX Docs, MRTG, other documentation. |
| **UNIX Docs** | <http://intranet2/Unix-Docs/> <http://intranet/Unix-Docs/> | <http://njintranet2/Unix-Docs/> <http://njintranet/Unix-Docs/> | Same physical location via either server. |
| **MarketData Support** | <http://intranet2/MarketData/Support/> | <http://njintranet2/MarketData/Support/> |  |
| **Ironport Mail Appliance Management** | <https://nyironport1> <https://nyironport2> | <https://njironport> |  |
| **Ironport Web Proxy Management** | <https://nywebsec1-1:8443> <https://nywebsec2-1:8443> | <https://njwebsec1-1:8443> |  |
| **PGP Mail Encryption Management** | [https://nypgp:9000/](https://172.19.10.234:9000/) | [https://njpgp:9000/](https://172.18.252.204:9000/) |  |
| **Development Web Services** | | | |
| **ElfJob Scheduler and Status** | [http://elfjobsched:12345/](http://ntlocksrv:12345/) elfjobsched is an alias of nyvmntlocksrv | [http://elfjobsched:12345/](http://njappser1:12345/) njappser1 | NJ link inactive until alias changed and service moved. |
| **RXX** | <http://mercury/rxx/> | <http://njappser1/rxx/nj.htm> |  |
| **Development Docs (Wiki)** | <http://cmwiki/wiki> | [http://njappser1/wiki](http://njappser1/wiki/Main_Page) | Alias cmwiki will move in DR. |

**Nikko/Tokyo Services**

We are running several services for access/to or access/from NCS services in Tokyo. Here is a brief list with NY and NJ equivalents.

1. Web Access to NCS sites (e.g., IStar, GSN etc) is through **njwebsec1**, which has direct routes configured to Tokyo, and should be transparent, assuming the routing (normally NY to Tokyo via MPLS) changes to NJ to LN to Tokyo as expected.
2. Email to NCS domains@smbcnikko.co.jp and others is similarly transparently handled by **njironport**, assuming the network moves correctly.
3. In New York, the server **nytru3** runs SSHD for access from Tokyo to put ("sftp") reports for Equity. In New Jersey, the server **njrhfs2** plays a similar role, and is already sent the nightly reports. All reports go into subdirectories of /export/export/fs/eqreports: FromTKY contains the GENPO and IPD csv files, (populated directly from Tokyo on each server), and archived into Archive, while ISTAR-NYC (archived to ISTAR-Archive) is only populated directly on the NY server, and synced to NJ nightly by our normal copy jobs.

**UNIX Server Management Notes**

**Server Management Notes**

The Console Manager for the NJ UNIX and MarketData Servers, Network Router and Switches, and SAN switches runs on njnetlog, which is actually njtru1: "telnet njnetlog 9999", or "telnet 172.18.252.201 9999". The terminal servers in NJ are dserv2 (172.18.252.193) and dserv5 (172.18.252.194) installed in cabinets B5 and B6 respectively.

The MarketData backbone servers are now in the NJ Blade Server cabinet, and the Internet Appliances are in cabinet B5. The servers njtru1 and njtru2 are in cabinet B5, consolidated into 1 physical server early October 2013. These are migrating to RHEL on HP Blade Servers in 2014.

The SAN switches are now managed by the Network group, the new switches: [nj9222c](http://nj9222c/) and [nj9222d](http://nj9222d/) are installed in the new Fabric MDF C4 cabinet.

The EMC VMAX 10K, NJVMAX is managed (Unisphere 1.6.1 as of October 2013) through this link: <http://njemcmgt:8443>, the management server is installed in the EMC Data Domain Cabinet, beside the VMAX cabinet.

SAN attached servers in NJ include njblcl1/2 (File Servers, roles of both nynasfs1 and nynasfs2), njnotes (Domino Server), njblappser1 (New Prism Application server), njfolders (New Prism Folders server), njblmom01 (New SCOM Management server), njblesx1-7, (ESX Virtual Machine Servers), njsql00, njprismsql2 (Database Server), njsccm01 (Windows Management Server), njtru1 and njtru2 (UNIX File Servers), and the new Market Data servers, njblmd{1,5}, and the new Intergate njintergate2.

**File Systems**

**User File Systems:**

The rule is: If the name of a server in use in NY begins with "ny", then the name of the corresponding server begins "nj" instead. (Example: nytru1, njtru1.) And if the name does not begin with "ny", the corresponding NJ machine has "nj" prepended.

Note however that njtru2 plays both roles of nytru2 and nytru3, and since early October 2013, also njtru1.

The Folders shares are not mapped explicitly in user profiles. Those with explicit drive letters should be configured in the NJ version of user profiles, or in login scripts.

|  |  |  |  |
| --- | --- | --- | --- |
| **File System** | **NY Path** | **NJ Path** | **Drive** |
| **Export** | \\nytru3\NFS | \\njrhfs2\NFS | E: (Prism Export) |
| **Home** | \\nytru3\%UserName% | \\njrhfs2\%UserName% | G: |
| **Folders1** | \\nyrhfs2\Folders1 | \\njrhfs2\Folders1 | (none) |
| **Folders2** | \\nytru1\Folders2 | \\njrhfs1\Folders2 | (none) |

The existence and writability (as appropriate) of these shares should be tested in advance of the user portion of the contingency test. In particular, the Samba configuration files /etc/smb.conf (/etc/samba/smb.conf on RHEL) should be compared and adjusted as needed.

**Developer File Systems:**

*nyvmdevfs1* (NY) hosts the developer source code file systems, this syncs to *njvmdevfs1*. All code is kept in "svn" on *mercury* in NY now. In NJ, *njappser1* will play that role.

|  |  |  |
| --- | --- | --- |
| **File System** | **NY Path** | **NJ Path** |
| **Prism Dev** | \\nyvmdevfs1\Dev | \\njvmdevfs1\Dev |
| **Prism Prod** | \\nyvmdevfs1\Prod | \\njvmdevfs1\Prod |
| **Prism Tools** | \\nyvmdevfs1\Tools | \\njvmdevfs1\Tools |
| **Prism Devdoc** | \\nyvmdevfs1\doc | \\njvmdevfs1\Doc |

### Maintenance Procedure

All configurations for use in DR already exist as described above. All data is replicated from NY to NJ.

### Cutover Procedure

Cutover procedures consist of using the NJ resources as described above. User resources using NJ are mapped in the NJ DR user profile.

## Databases and Storage Area Network (SAN)

### Overview

We have many databases that need to be used in NJ during the test, the most important of which is "Prism", covered in its own section below. Others include the Sharepoint database (on **nysql00** in NY, **njsql00** in NJ), and the various system databases living on **nyblsql01** in NY. These are replicated in different ways to NJ, with "log shipping" in use nowadays for most database replication. Since October 2011 we also have an Oracle database for FRS Global reporting (used by the LTD company in London). The NY server is on **nyvmoracle01**, with the NJ version on **njvmoracle01**.

**RecoverPoint**

With the VMAX implementation in 2013, the replication method for some selected volumes uses EMC RecoverPoint Appliances, see [Recover Point Documents (NY)](http://nytru1/Unix-Docs/RecoverPoint) or [Recover Point Documents (NJ)](http://njtru1/Unix-Docs/RecoverPoint) for more details.

The current list of 'Consistency Groups' is:

1. Back Office Voice
2. Front Office Voice
3. Good Cache
4. NYDEVFS1\_Sim\_Vol
5. RPA\_Test
6. Source One

The Replication jobs will be paused before the cutover, and resumed afterwards.

We expect to use the Good Cache during DR.

### Maintenance Procedure

Databases in NJ are updated from NY using mirroring, MS Log shipping, Application synchronization, and MS SQL Transaction Replication as appropriate.

### Cutover Procedure

Cutover procedures vary by database usage, replication technology and application.

## Prism Database and Folders

### Overview



There is one Prism Database server in New Jersey, on the machine NJPRISMSQL2. The cutover involves promoting this to "master" from its normal role as a "slave". Details are in the Development Contingency document, at [Contingency Doc](http://prismdev/devdoc/Contingency/contingency.doc), or [Contingency Doc (NJ copy)](http://njprismdev/devdoc/Contingency/contingency.doc). for the procedures to be followed. (This also has cutover details for Star and Elf.)

The Prism database production servers are: nyblprismsql01 (New York production Master, SQL 2008), njprismsql2 (New Jersey, SQL 2008), ukprismsql2 (London production, SQL 2008), lnprismsql2 (London backup, SQL 2008), hkprismsql2 (HongKong, SQL 2008).

### Maintenance Procedure

The Prism SyncServer processes keep most of the tables in the Prism Databases synchronized in real time between all Prism sites (NY, NJ (NY DR), HK, London ONC, London Sungard Woking (London DR). The remaining tables, the "non-logged classes", are updated from NY (nyblprismsql01 master Prism server) to NJ (njprismsql2 server) and London DR (lnprismsql2 server) realtime using MS SQL Transactional Replication, except for the TradeRepRptText', not replicated to London.

### Cutover Procedure

See section 6.14.1 below for details.

## Prism Folders Switching



### Overview

The change in the Folders configuration described here is carried out by the Developer group, as part of their cutover/cutback procedures. We describe it here for possible use in troubleshooting.

The configuration for Folders is found under Prism Task, from "Configuration" -> "Edit" -> "Edit Folder Locations", which brings up the "Folder Location Table". (Picture in the document [Prism Folders](http://nytru1/Unix-Docs/folders.html).) This table already contains the NY and NJ path names (UNC Names) needed for Prism to find Folders. To actually make the switch so that Prism uses the NJ resources, 2 changes are needed:

1. Set the "UB" (use backup) flags for all the Folder volumes whose site is "NewYork". (NJ counts as "NewYork" for this Prism site variable. This will change the paths used for access to Folders files from using the NY paths to the NJ paths. This also ensures the NJ servers are used for the "Server" and "RunChgPerms" columns.)
2. Turn off the "AB" flags for all the Folder volumes whose site is "NewYork". (This disables the backup copying function of remoted.)

### Maintenance Procedure

Prism Folders are replicated real time from NY to NJ using the Prism Remoted backup process running on **njappser4**. This is supplemented by nightly file server copies.

### Cutover Procedure

See developer document for details, but also described in section 6.14.1 above

## Windows Servers



### Overview

**Microsoft Software Update Services**

Microsoft SUS Services are not currently installed on any servers in the Contingency Site. In the event of long-term use of the Contingency Site, SUS can be installed to operate from the server NJNTFS, where there is already a web server in operation.

**Anti-Virus**

All workstations and servers located at the Contingency Site are part of the anti-virus management domains operated from the New York Office and receive regular anti-virus signature updates from these management domains. In contingency operation and while the New York Office is unavailable, virus signature updates will be manually distributed and installed to workstations and servers in the Contingency Site. If the New York Office was unavailable for an extended period of time, a new anti-virus management domain would be established on a server at the Contingency Site to manage anti-virus signature updates in an automated fashion.

### Maintenance Procedure

Windows Servers in Harborside are patched along the same schedule as our production servers in NY. Patches are typically pushed to NJ servers before applied to production servers in NY.

Servers in NJ are typically refreshed when a system in NY becomes near end of life. This is approximately 3 years after purchase. Support is provided by 3rd party vendors. There are instances when new servers are warranted.

### Cutover Procedure

**Active Directory FSMO Roles and Domain Integrity**

For limited use of the Capital Markets contingency site, it is not necessary to promote or change FSMO roles within the Active Directory Domain. In the event of a long term relocation to the contingency site, or in the event that some domain controllers in the New York office are going to be unavailable for an extended period of time (over three days), it will be necessary to change FSMO roles for the domain controllers. See Appendix, Microsoft Knowledge Base Article – 255504, “Using Ntdsutil.exe to Seize or Transfer FSMO Roles to a Domain Controller.”

In a short-term contingency situation (the real thing), no transfer of FSMO roles is required.

In a Contingency TEST, no transfer of FSMO roles is required.

In a long-term contingency situation (the real thing), transfer or seizure of FSMO roles may be required. Roles may be transferred to existing and stable NJ or London servers as administrators choose. This step should only be undertaken when existing FSMO role holders are not expected to be available for more than a week of operation.

**Microsoft Knowledge Base Article – 255504**

http://support.microsoft.com/default.aspx?scid=kb;en-us;255504

Using Ntdsutil.exe to Seize or Transfer FSMO Roles to a Domain Controller

View products that this article applies to.

This article was previously published under Q255504

**Summary**

This article describes how to use the Ntdsutil.exe tool to seize or transfer Flexible Single Master Operations (FSMO) roles.

**More Information**

The first Microsoft Windows 2000 Active Directory domain controller in a forest is granted five FSMO roles when you run the Dcpromo.exe program and install Active Directory. There are two FSMO roles that are forest-wide and three that are per domain. If child domains are created, the two forest-wide roles do not change. A forest with two domains would have eight FSMOs; two for the forest and three domain specific FSMO roles in each domain.

The five FSMO roles are:

* Schema master - Forest-wide and one per forest.
* Domain naming master - Forest-wide and one per forest.
* RID master - Domain-specific and one for each domain.
* PDC - PDC Emulator is domain-specific and one for each domain.
* Infrastructure master - Domain-specific and one for each domain.

To move the FSMO roles from one computer to another, you can use two different methods. The first method is a transfer and is the method that is recommended. You can use the first method if both computers are running. Use the second method if the FSMO roles holder is offline. The second method requires you to use the Ntdsutil.exe tool to seize the roles.

Note Only seize the FSMO roles to the remaining Active Directory domain controllers if you are removing the FSMO role holder from the domain or forest.

To seize or transfer the FSMO roles by using Ntdsutil, follow these steps:

1. On any domain controller, click Start, click Run, type ntdsutil in the Open box, and then click OK.

Note Microsoft recommends that you use the domain controller that is taking the FSMO roles.

1. Type roles, and then press ENTER.

To see a list of available commands at any of the prompts in the Ntdsutil tool, type ?, and then press ENTER.

1. Type connections, and then press ENTER.
2. Type connect to server servername, where servername is the name of the server you want to use, and then press ENTER.
3. At the server connections: prompt, type q, and then press ENTER again.
4. Type seize *role*, where role is the role you want to seize. For a list of roles that you can seize, type ? at the Fsmo maintenance: prompt, and then press ENTER, or consult the list of roles at the beginning of this article. For example, to seize the RID Master role, you would type seize rid master. The one exception is for the PDC Emulator role, whose syntax would be "seize pdc" and not "seize pdc emulator".

**Note** All five roles need to be in the forest. If the first domain controller is out of the forest then seize all roles. Determine which roles are to be on which remaining domain controllers so that all five roles are not on only one server.

Microsoft recommends that you only seize all roles when the other domain controller is not returning to the domain, otherwise fix the broken domain controller with the roles.

**Note** If the domain controller that formerly held any FSMO role is not present in the domain and if it has had its roles seized by the earlier steps in this article, remove it from the Active Directory by following the procedure that is outlined in the following Microsoft Knowledge Base article: For additional information, click the following article number to view the article in the Microsoft Knowledge Base:

216498 HOW TO: Remove Data in Active Directory After an Unsuccessful Domain Controller Demotion

If the original domain controller with the FSMO roles is still online, transfer the roles. Type transfer role.

1. After you seize or transfer the roles, type q, and then press ENTER until you quit the Ntdsutil tool.

**Note** Do not put the Infrastructure Master role on the same domain controller as the global catalog.

To check if a domain controller is also a global catalog server:

1. Click Start, point to Programs, point to Administrative Tools, and then click Active Directory Sites and Services.
2. Double-click Sites in the left pane, and then browse to the appropriate site or click Default-first-site-name if no other sites are available.
3. Open the Servers folder, and then click the domain controller.
4. In the domain controller's folder, double-click NTDS Settings.
5. On the Action menu, click Properties.
6. On the General tab, locate the Global Catalog check box to see if it is selected.

For additional information about FSMO roles, click the article numbers below to view the articles in the Microsoft Knowledge Base:

197132 Windows 2000 Active Directory FSMO Roles

223787 Flexible Single Master Operation Transfer and Seizure Process

**NOTE:** Do not put the Infrastructure Master (IM) role on the same domain controller as the global catalog server. If the Infrastructure Master runs on a global catalog server it will stop updating object information because it does not contain any references to objects that it does not hold. This is because a global catalog server holds a partial replica of every object in the forest.

## Windows Workstations



### Overview

Workstations are already deployed to desk locations in the Capital Markets and Nikko Securities Contingency space. All workstations in the Contingency Site are kept hot (up/running and on the network) at all times; patches, updates and software distributions are performed regularly. All production required files are updated nightly.

### Maintenance Procedure

Site-Specific Workstation Configurations

There are a number of settings which pertain to Market Data services, Prism application settings and other environment variables that need to be different from the normal settings use in at the Production Site in order to have applications and logins run properly in the Contingency Site. These changes are part of the SMBC-CM Windows7 Contingency GPO. These settings are always in effect on the workstations at each of the User Recovery Sites and should not require management in normal use of the Contingency Site.

### Cutover Procedure

**Login Scripts**

Under Capital Markets’ Windows 7 configuration, the Login script (Login\_CMSI.vbs ) maps the network drives to either NY or NJ resources depending on the location of the workstation that is being accessed. If the workstation is in NJ the drives will map to NJ resources. If the workstation is in NY the drives will map to NY resources

For use at the Contingency Site, there are NO changes required to the login scripts

**Local Notes Data Directories**

Lotus Notes files reside on the users network drive (or their N:\Lotus\Notes\Data drive). The files are replicated between NY and NJ nightly.

For use at the Contingency Site, there are NO changes required to the Lotus Notes data directory

**User Profiles and Home Directories**

In the user account (available in Active Directory Users and Computers), the User Profile Path must be completely defined. The proper setting for NY users is: [\\Nyusers\profiles$](file:///\\Nyusers\profiles$) and [\\Nyblusers\profiles$](file:///\\Nyblusers\profiles$)

For use at the Contingency Site, using Active Directory Users and Computers, redirect all User Profile Paths to [\\njntfs\profiles$](file:///\\njntfs\profiles$) Upon completion of use of DR site, revert all settings back to NY

User Home Folders are controlled through Active Directory Users and Computers. All users who will log in at the Contingency Site must have their User Home Folder directed to use a directory available at the Contingency Site.

For use at the Contingency Site, using Active Directory Users and Computers, redirect all User Home Folders for the users at the DR site to \\NJTRU2\%username%. Some developers use \\PrismDev2\%username% as their User Home Directory, these should be switched to \\NJPrismDev2\%username%.

After use of the contingency site is complete, the User Home Directory for all users should be reverted to \\NYDUFS3\%username% or [\\NYPrismDev2\%username%](file:///\\NYPrismDev2\%25username%25).

Additionally, for DR exercises and if using the DR location long term, in Active directory move the user account object from the current OU to the HarborSide OU.

**Prism**

In the SMBC-CM Windows 7 environment, there are NO special steps required on the Windows workstation side to enable Prism. Rather, when working from the contingency site, there is a separate icon titled NJ Prism that should be used to access Prism.

**Prism Distribution**

The nightly Prism Distribution is distributed to \\ NJAPPSER1\PrismDist every night as part of the normal nightly NY distribution. Distributions to the local workstations also occur as part of the normal nightly NY distribution. In the event that a change needs to be made to al Prism installations across the Contingency Site, the source on NJAPPSER1 should be used as the primary source for distribution.

To initiate Prism distribution to the local workstations from the command line on NJAPPSER1, the following can be run:

Domain Wide Distribution:

%prismdir%\scripts\distribute –source\_dir=%prismdir%

Machine specific Distribution:

%prismdir%\scripts\distribute –source\_dir=%prismdir% machinename

**Non-Prism Distribution**

The nightly NON-Prism Distribution is distributed to \\ NJAPPSER1\roboshare every night as part of the normal nightly NY distribution. Distributions to the local workstations also occur as part of the normal nightly NY distribution. In the event that a change needs to be made to al Prism installations across the Contingency Site, the source on NJAPPSER1 should be used as the primary source for distribution.

To initiate non-Prism distribution to the local workstations from the command line on NJAPPSER1, the following can be run:

Domain Wide Distribution:

\\ NJAPPSER1\usr\bin\prod-distw2k.bat

Machine specific Distribution:

\\ NJAPPSER1\usr\bin\prod-distw2k.bat machinename

In folder **Queue Managers**, add new queue manager called PROD:

not default QM

allow remote admin

listen on port 1420

In folder PROD/Queues:

local queue called UNDELIVERABLE: not persistent

local transmission queue called TO.GSCC.PROD: persistent (still unclear if it needs to be such)

local queue called PROD.SBSI.FROM.GSCC: persistent

remote queue called PROD.SBSI.TO.GSCC referring to queue MCCP.SBC9644.PGSCC.INPUT on QM PGSCC using transmission queue TO.GSCC.PROD: also needs to be declared as persistent

In folder PROD/Advanced/Channels:

server connection called clients (using TCP/IP)

sender channel called SBC9644\_PGSCC\_CH02 (using TCP/IP) with a *connection name* of 192.159.81.52(1423) and transmission queue TO.GSCC.PROD. Under the Extended tab, set the disconnect interval to 0 (so that it stays up always), set batch size at 50 and set format conversion to YES

receiver channel called PGSCC\_SBC9644\_CH02 (using TCP/IP)

In folder PROD itself:

under Extended tab, configure dead-letter queue as UNDELIVERABLE

The corresponding Prism configuration file entries are as follows:

MQ\_host=”nymq(1420)”

MQ\_name=PROD

MQ\_toGSCC=”PROD.SBSI.TO.GSCC”

MQ\_fromGSCC=”PROD.SBSI.FROM.GSCC”

**Configuring MQ backup systems**

NJMQ is the backup host for both our production and test systems. The configuration is identical to NYMQ with PROD and TEST QMs talking to the same GSCC QMs. The Prism configuration file only needs one character of the host name to be changed:

MQ\_host=”njmq(1420)”

## Server Management

### Overview

**Server Console Access**

A web server has been installed on the server NJNTFS with the Terminal Services web client available under the /tsweb directory. By selecting the URL http://njntfs/tsweb, an administrator will be able to run the Terminal Services Web Client from any workstation.

All Windows Servers in the Contingency Site should run Windows Server 2008 R2 or higher and all should have Terminal Services for Remote Administration enabled. The standalone client can also be run; the client can be installed from \\njntfs\c$\WINNT\system32\clients\tsclient. Running the standalone client from the command line with the following options will allow an administrator to connect to the console session on a server: mstsc.exe /console /v:*[server name].*

### Maintenance Procedure

Windows Servers in Harborside are patched along the same schedule as our production servers in NY. Patches are typically pushed to NJ servers before applied to production servers in NY.

Servers in NJ are typically refreshed when a system in NY becomes near end of life. This is approximately 3 years after purchase. Support is provided by 3rd party vendors. There are instances when new servers are warranted.

### Cutover Procedure

**Active Directory FSMO Roles and Domain Integrity**

For limited use of the Capital Markets contingency site, it is not necessary to promote or change FSMO roles within the Active Directory Domain. In the event of a long term relocation to the contingency site, or in the event that some domain controllers in the New York office are going to be unavailable for an extended period of time (over three days), it will be necessary to change FSMO roles for the domain controllers. See Appendix, Microsoft Knowledge Base Article – 255504, “Using Ntdsutil.exe to Seize or Transfer FSMO Roles to a Domain Controller.”

In a short-term contingency situation (the real thing), no transfer of FSMO roles is required.

In a Contingency TEST, no transfer of FSMO roles is required.

In a long-term contingency situation (the real thing), transfer or seizure of FSMO roles may be required. Roles may be transferred to existing and stable NJ or London servers as administrators choose. This step should only be undertaken when existing FSMO role holders are not expected to be available for more than a week of operation.

**Microsoft Knowledge Base Article – 255504**

http://support.microsoft.com/default.aspx?scid=kb;en-us;255504

Using Ntdsutil.exe to Seize or Transfer FSMO Roles to a Domain Controller

View products that this article applies to.

This article was previously published under Q255504

SUMMARY

This article describes how to use the Ntdsutil.exe tool to seize or transfer Flexible Single Master Operations (FSMO) roles.

MORE INFORMATION

The first Microsoft Windows 2000 Active Directory domain controller in a forest is granted five FSMO roles when you run the Dcpromo.exe program and install Active Directory. There are two FSMO roles that are forest-wide and three that are per domain. If child domains are created, the two forest-wide roles do not change. A forest with two domains would have eight FSMOs; two for the forest and three domain specific FSMO roles in each domain.

The five FSMO roles are:

* Schema master - Forest-wide and one per forest.
* Domain naming master - Forest-wide and one per forest.
* RID master - Domain-specific and one for each domain.
* PDC - PDC Emulator is domain-specific and one for each domain.
* Infrastructure master - Domain-specific and one for each domain.

To move the FSMO roles from one computer to another, you can use two different methods. The first method is a transfer and is the method that is recommended. You can use the first method if both computers are running. Use the second method if the FSMO roles holder is offline. The second method requires you to use the Ntdsutil.exe tool to seize the roles.

**Note** Only seize the FSMO roles to the remaining Active Directory domain controllers if you are removing the FSMO role holder from the domain or forest.

To seize or transfer the FSMO roles by using Ntdsutil, follow these steps:

1. On any domain controller, click Start, click Run, type ntdsutil in the Open box, and then click OK.

**Note** Microsoft recommends that you use the domain controller that is taking the FSMO roles.

1. Type roles, and then press ENTER.

To see a list of available commands at any of the prompts in the Ntdsutil tool, type ?, and then press ENTER.

1. Type connections, and then press ENTER.
2. Type connect to server servername, where servername is the name of the server you want to use, and then press ENTER.
3. At the server connections: prompt, type q, and then press ENTER again.
4. Type seize *role*, where role is the role you want to seize. For a list of roles that you can seize, type ? at the Fsmo maintenance: prompt, and then press ENTER, or consult the list of roles at the beginning of this article. For example, to seize the RID Master role, you would type seize rid master. The one exception is for the PDC Emulator role, whose syntax would be "seize pdc" and not "seize pdc emulator".

**Note** All five roles need to be in the forest. If the first domain controller is out of the forest then seize all roles. Determine which roles are to be on which remaining domain controllers so that all five roles are not on only one server.

Microsoft recommends that you only seize all roles when the other domain controller is not returning to the domain, otherwise fix the broken domain controller with the roles.

**Note** If the domain controller that formerly held any FSMO role is not present in the domain and if it has had its roles seized by the earlier steps in this article, remove it from the Active Directory by following the procedure that is outlined in the following Microsoft Knowledge Base article: For additional information, click the following article number to view the article in the Microsoft Knowledge Base:

216498 HOW TO: Remove Data in Active Directory After an Unsuccessful Domain Controller Demotion

If the original domain controller with the FSMO roles is still online, transfer the roles. Type transfer role.

1. After you seize or transfer the roles, type q, and then press ENTER until you quit the Ntdsutil tool.

**Note** Do not put the Infrastructure Master role on the same domain controller as the global catalog.

To check if a domain controller is also a global catalog server:

1. Click Start, point to Programs, point to Administrative Tools, and then click Active Directory Sites and Services.
2. Double-click Sites in the left pane, and then browse to the appropriate site or click Default-first-site-name if no other sites are available.
3. Open the Servers folder, and then click the domain controller.
4. In the domain controller's folder, double-click NTDS Settings.
5. On the Action menu, click Properties.
6. On the General tab, locate the Global Catalog check box to see if it is selected.

For additional information about FSMO roles, click the article numbers below to view the articles in the Microsoft Knowledge Base:

197132 Windows 2000 Active Directory FSMO Roles

223787 Flexible Single Master Operation Transfer and Seizure Process

**NOTE:** Do not put the Infrastructure Master (IM) role on the same domain controller as the global catalog server. If the Infrastructure Master runs on a global catalog server it will stop updating object information because it does not contain any references to objects that it does not hold. This is because a global catalog server holds a partial replica of every object in the forest.

## Market Data Environment (Oisin McGuinness, author)

### Overview

We give a quick description of how the NJ Market Data setup differs from that in NY, and then give a table of correspondences for the different settings.

The major difference when comparing NY to NJ is size (fewer backbone machines and lesser redundancy in NJ, e.g., only 1 RDF). Also, the feed "DTS\_SSL" is not available in NJ (Dealing Ticket Feed for Treasury). In 2013, we implemented a new TREP "Thomson Reuters Enterprise Platform" backbone using RHEL6.3 platform on HP Blade Servers, with latest versions of ADS (replacing P2PS), ADH, (replacing MDH), ATS, (replacing DTS), and DACS. We keep the same client facing IPs and names for compatibility. Thus njp2ps1-1 below is also njads1-1 or njblmd1, a new HP Blade Server. These servers/services were tested in the 2013 DR Test.

### Maintenance Procedure

DACS Permissions: A daily cron job is run on the NJ DACS server (njdacs) from radmin crontab to copy the latest dump of the Market Data permissions from the NY DACS server. 30 days of backup copies are kept in NJ.

ATS Shred Definitions: Daily cron jobs are run on the NJ ATS server (njats1) from radmin crontab to copy the latest copy of the NY ATS shred definitions to the NJ ATS server, and to reload it with these definitions. 30 days of backup copies are kept in NJ.

No other maintenance procedures are required. The NJ servers are running the same versions of the TREP software as in NY.

### Cutover Procedure

DAC Permissions: A script “load\_productionDB.sh” on the NJ DACS server will be run to load the the latest copy of the permissions data (see 1.1.2 above) into the NJ DACS database, then a ‘distribute” will push out the permissions to the NJ ADS servers.

Otherwise, no special cutover procedures are required. NJ clients for the TR Market Data are already configured (e.g. via the Eikon configuration file RDMC\_Configuration.xml and OverrideConfiguration.xml to point to the NJ Market Data Servers and NJ Time Series Proxy. These files are part of the Eikon install on NJ DR Workstations.) Static routes to the Thomson Reuters private networks used for Eikon Login and Eikon services are already configured in NJ to use the NJ Thomson Reuters connections, so no changes are required in cutover.

## Open Bloomberg

### Overview

In New York, Open Bloomberg workstations connect via a private line. At this point, no private line in NJ is available for Bloomberg. However "Bloomberg Anywhere" can connect via an Internet connection, provided the user has this feature enabled for their account. Bloomberg TOMS gateway services are installed on njappser4, and is setup to route to Bloomberg via the London private line connection to Bloomberg.

### Maintenance Procedure

We retrieve monthly updates of the full Bloomberg Software packages via FTP from Bloomberg. These are on file systems synchronized to NJ, see [\\njtru1\BloombergSoftware](file:///\\njtru1\BloombergSoftware), so providing the ability to do a full Bloomberg client install should that be needed in DR mode.

### Cutover Procedure

Bloomberg Anywhere users, 95% of our Bloomberg users, will be able to access Bloomberg via the internet during a disaster. There are no specific cutover procedures since Bloomberg is available via the internet.

## Thomson Reuters Eikon

### Overview

Thomson Reuters Eikon replaced Kobra/3000Xtra in 2014.

|  |  |  |  |
| --- | --- | --- | --- |
| **Setting** | **NY Value** | **NJ Value** | **Remarks** |
| **Sink Distributors P2PS** | nyp2ps1-1 nyp2ps2-1 nyp2ps3-1 | njads1-1 njads2-1 | See Eikon RDMSConfig\_Eikon.xml |
| **Time Series Proxy** | tr-timeseries-proxy | nj-tr-timeseries-proxy | See Eikon OverrideConfiguration.xml |
| **DACS Management** | <http://nydacs-1:8080/dacs/> | <http://njdacs-1:8080/dacs/> | Permissions replicated NY to NJ; usage data not, reload when needed, scripts on NJ machine. |
| **ATS Management** | <http://nyats1-1:8080/ats_ui> <http://nyats2-1:8080/ats_ui> | <http://njats1-1:8080/ats_ui> | ats.dico is copied from NY to NJ shredder (njats1-1) daily. |

### Maintenance Procedure

Copies of Eikon software maintained in software repositories which are replicated to NJ.

### Cutover Procedure

No special cutover procedures are required. NJ clients for the TR Market Data are already configured (e.g. via the Eikon configuration file RDMC\_Config.xml and OverrideConfiguration.xml to point to the NJ Market Data Servers and NJ Time Series Proxy. These files are part of the Eikon install on NJ DR Workstations.).

## MarketView

### Overview

The NJ MarketView is at [New Jersey Market View](http://njintranet2/NJ-marketview.cgi), running on njintranet2, (also known as njtru2). (There are links off [Intranet2](http://intranet2/), and [NJIntranet2](http://njintranet2/) to both this page, and the production (NY) MarketView.) The backend for this runs on njtriapps1-1. See [Misc Apps](http://intranet2/MarketData/Support/misc.html) for information on the backend startup and processes.

### Maintenance Procedure

Software is already configured for NJ, and replicated to NJ from NY.

### Cutover Procedure

None needed, links and services already exist.

## Printers, Fax, Copier

### Overview

**Printers**

All the printers are kept in the Storage Room. lpnj is the network card in an HP with the Postscript option and the IP address 172.18.252.221.

Other HP PCL printers can be set up to service nodes connected to njlogin. These are in the Storage room.

**Faxing**

Incoming faxes are delivered the same way as NY. Faxes are emailed to our systems through the eFax service. Outbound faxing can be accomplished through the copier at the User Recovery Sites.

**Copy Machine**

There are copy machines at all of the User Recovery Sites.

### Maintenance Procedure

**Printers:**

Any new printers added to the NY print server are also added to the NJ print server. This server is treated as production and receives regular updates/patches.

The "Toshiba Anywhere" Printer is deployed to every user who logs on to a NJ machine. This allows for a print job to be picked up on the NJ Accounting copier.

**Faxing:**

Maintenance procedures for incoming fax services are handled under Lotus Notes Maintenance Procedures. This is due to the fact that all incoming faxes are delivered to us via email.

Outbound faxing is accomplished with the use of the copiers and an application (Drivve) that resides on the Print Server.

### Cutover Procedure

**Printers and Copiers:**

Toshiba copiers have configurations pointing to “papercutserver” and “drivveserver” Theses DNS aliases currently point to nyprint and nyvmdrivve respectively. The role of these servers is as follows.

Papercutserver points to the server running PaperCut. This application hosts the “Toshiba Anywhere” printer deployed to all users. Paperport is configured to sync with Active Directory and keeps a local DB linking ID card to AD accounts so a user can “badge” into the copier.

Drivveserver points to the server running DrivveImage. This application works with the copiers and allows users to send faxes through the copiers to eFax. The template within Drivve is configured to send outbound email as [toshibafax@smbc-cm.com](mailto:toshibafax@smbc-cm.com) which is a configured account on eFax.

**Production DNS Aliases**

Papercutserver.ny.smbc-cm.com = nyprint.ny.smbc-cm.com

Drivveserver.ny.smbc-cm.com = nyvmdrivve.ny.smbc-cm.com

**DR DNS aliases**

Papercutserver.ny.smbc-cm.com = njprint.ny.smbc-cm.com

Drivveserver.ny.smbc-cm.com = njprint.ny.smbc-cm.com

For DR cutover, modify the 2 DNS aliases to point to NJ resources.

**Faxing:**

As with Lotus Notes Mail databases, there is no specific cutover procedure needed for incoming fax boxes as they are handled the same way as mail databases.

# Appendix A: BCDR Supervisory Personnel

The table below contains the list of BCDR Supervisory Personnel, as described in Section 4, who responsible for implementing each aspect of the BCDR Plan, including their full names, job titles, departments, and primary and secondary contact information. The “Responsibility” column describes aspects of the BCDR Plan for which each individual is primarily responsible; any item not specifically named in this column is the joint responsibility of all BCDR Supervisory Personnel.

| **NAME** | **TITLE / DEPT.** | **PRIMARY CONTACT** | **SECONDARY CONTACT** | **RESPONSIBILITY** |
| --- | --- | --- | --- | --- |
| **Gus Moore** | Chief Operating Officer; Managing Director  Dept: Management | Office Phone:  212-224-5131  Office e-mail:  moore@smbc-cm.com | Home phone:  212-721-7892,  Mobile phone:  917-842-2563,  Home e-mail:  rpg4003@gmail.com | * Primary Emergency Contact for the CFTC/NFA in case of any emergency or any other disruption. * Authorized for making key BCDR decisions on behalf of the Firm. * Responsible for managing BCDR response and recovery of back and middle office. |
| **Yasuhiko Aosaka** | Managing Director  Dept: Management | Office Phone:  212-224-5011  Office e-mail:  yaosaka@smbc-cm.com | Home phone:  646-398-9272  Mobile phone:  347-255-6923  Home e-mail:   |  | | --- | | y-aosaka@  w3.dion.ne.jp | | * Primary Emergency Contact for the CFTC/NFA in case of any emergency or any other disruption. * Authorized for making key BCDR decisions on behalf of the Firm. * Responsible for managing BCDR response and recovery of back and middle office. |
| **Thomas Sutton** | Chief Technology Officer; Managing Director  Dept: Systems Infrastructure. | Office Phone:  212-224-4904    Office e-mail:  sutton@  smbc-cm.com | Mobile phone:  646-303-8232 | Primary manager responsible for:   * Emergency communications; * Activation of the backup infrastructure; * Minimizing the disruption to the Firm’s IT infrastructure and activating recovery if necessary; * Distribution of the BCDR Plan in connection to the BCDR event. |
| **Maureen Kivlehan-Sutton** | Director  Dept: Systems Infrastructure. | Office Phone:  212-224-4944  Office e-mail:  kivlehan@smbc-cm.com | Home phone:  201-391-4916  Mobile phone:  201-819-2658  Home e-mail:  maureensutton5@  gmail.com | Secondary manager responsible for the:   * Emergency communications; * Activation of the backup infrastructure; * Minimizing the disruption to CM Inc.’s IT infrastructure; |

# 

# Appendix B: BCDR Critical Employees

Below is a chart of BCDR Critical Employees, as described in Sections 2.2 and 5. BCDR Supervisory Personnel, who are also designated as BCDR Critical Employees, are not included in the below list. Their contact information may be found in Appendix A.

All of these individuals may be asked to go to any of the four backup site in the event of an emergency or other disruption; however, for some employees, it may not be essential that they are physically present at the backup site if they can use remote access. For certain departments (e.g., Systems Infrastructure and Software Development), it is essential that we have a minimum number of people physical present at the backup site.

Backups have been listed for day 1 personnel. In general, the backup for a day 1 person is not another day 1 person; however, in cases where it this is necessary, a secondary backup has generally been listed. (Note that the Firm’s Business Impact Analysis process identifies the total number of essential personnel who would be required for each department and critical function in case of an emergency or other disruption.)

In the event of an emergency or other disruption, employees designated as BCDR Critical Employees should consult Section 5, entitled “Responsibilities of BCDR Critical Employees.”

| **Name** | **Home Phone** | **Mobile Phone** | **Req'd BCP Day** | **BCP Backup Person** | **Alternative No.** | **Home E-mail** | **Department** | **Remote Access** | **May be Essential at Backup Site – Day 1[[4]](#footnote-5)** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Antony Yates[[5]](#footnote-6) | 07850 846 156 | 07850 846 156 | Remote in LN | Ryoji Sato |  | 01959 533 969 | Management | YES | N/A |
| Ryoji Sato[[6]](#footnote-7) | 917-613-0022 | 347-267-7402 | 1 | Gus Moore |  | ryojisato@gmail.com | Management | YES |  |
| Gus Moore | 917-566-4909 | 917-842-2563 | 1 | Yasuhiko Aosaka | 917-566-4909 | rpg4003@gmail.com | Management | YES |  |
| Yasuhiko Aosaka | 646-398-9272 | 347-255-6923 | 1 | Gus Moore |  | y-aosaka@w3.dion.ne.jp | Management | YES |  |
| Thomas Sutton | 646-303-8232 | 646-303-8232 | 1 | Gus Moore |  |  | Management | YES | X |
| Yunson Du[[7]](#footnote-8) | 914-713-4372 | 917-428-5257 | 1 | Gus Moore |  | yunson\_du@yahoo.com | Management | YES |  |
| Paul Stolbof | 201-264-7760 |  |  | Joan Gray |  | pstolbof@verizon.net | Management | YES | X |
| Chun Yi Zheng | 718-686-6709 | 646-239-0452 | 1 | Milton Chan | 646-239-0452 | chunyizheng@hotmail.com | Accounting | YES | X |
| Virginia Harnisch | 516-569-1301 | 646-201-8510 | 1 | Michael Ward |  | virginiaharnisch@gmail.com | Compliance | YES |  |
| Danny Boodram | 718-641-0220 | 718-496-2593 | 1 | Vincent Zeng | 718-496-5238 | reenactors@aol.com | Confirmations | NO | X |
| Raymond Ho | 917-682-2545 | 917-682-2545 | 1 | Anna Shade |  | rho514@gmail.com | Confirmations | YES | X |
| Caroline Grant-Brackins | 732-887-0016 | 732-887-0016 | 1 | Asami Ota | 973-493-3830 |  | Credit | YES | X |
| Anush Ricci | 917-817-6557 |  | 1 | Asami Ota |  | anush.ricci@yahoo.com | Credit | YES | X |
| Nathaniel Ryan |  | 908-672-6101 | 1 | Jae Park |  | njryan@hotmail.com | Financial Institutions/Municipals | YES | X |
| Jae Park | 201-496-6172 |  | 1 | Nathaniel Ryan | 917-588-1400 |  | Financial Institutions/Municipals | YES | X |
| Maureen Kivlehan-Sutton | 201-391-4916 | 201-819-2658 | 1 | Robert DuPuy |  | maureensutton5@gmail.com | IT Risk | YES | X |
| Takahiro Nishikawa | 646-715-8270 |  | 1 | Michiko Miura |  | nishikawa0707@gmail.com | Planning | YES | X |
| Brian Song | 914-472-2031 | 203-219-8503 | 1 | Yong Yu |  |  | Quantitative Research | YES | X |
| David Feldman | 212-343-7497 | 646-246-5206 | 1 | Jeff Lattime |  |  | Rates Trading | YES | X |
| Mark Bergman | 718-252-3020 | 917-843-4097 | 1 | Scott Callahan |  | snoopyonpot@yahoo.com | Rates Trading | YES | X |
| Raju Shanmuganathan | 201-372-9595 | 917-533-2468 | 1 | Mony Abergel | 917-533-2468 | shanraju@gmail.com | Sales Trading | YES | X |
| Joan Gray | 201-434-5549 | 201-492-2564 | 1 | Maria Regan |  | joan.gray1797@yahoo.com | Settlements | YES | X |
| Trey (Edwin) Harragan | 516-627-6235 | 646-369-5946 | 1 |  |  | harragan@gmail.com | Systems Development | YES | X |
| Ed Krauser | 908-879-1518 | 908-565-0159 | 1 | Dawid Midura |  | ekrauser@gmail.com | Systems Development | YES | X |
| Dima (Dmitriy) Patek |  | 917-545-9289 | 1 | Frank Buonarota |  | cudima@yahoo.com | Systems Development | YES | X |
| Joseph Santoro | 914-723-5735 | 914-469-8877 | 1 | Vince Ye |  | jtsgiants55@yahoo.com | Systems Development | YES | X |
| Xin Xu | 732-446-6728 | 732-659-4698 | 1 | Dima Patek |  | xinxu88@gmail.com | Systems Development | YES | X |
| Vince Ye | 718-357-3937 | 347-693-3939 | 1 | Joe Santoro |  | chinhueh@gmail.com | Systems Development | YES | X |
| Daren Chapin | 212-604-0639 | 917-501-9672 | 1 | Xin Xu |  | daren.chapin@gmail.com | Systems Development | YES | X |
| Michael Cohen |  | 732-241-6100 | 1 | Maureen Kivlehan-Sutton |  | m63cohen@gmail.com | Systems Infrastructure | YES | X |
| Larry Cucinella | 203-966-8021 | 917-544-0871 | 1 | Artur Krol |  | 9175440871@att.blackberry.net | Systems Infrastructure | YES | X |
| Hubert Huang | 609-750-9338 | 609-802-9200 | 1 | Oisin McGuinness |  | hmhuang@msn.com | Systems Infrastructure | YES | X |
| Artur Krol | 732 679 0878 | 646-852-3120 | 1 | Thomas O’Gorman |  |  | Systems Infrastructure | YES | X |
| Oisin McGuinness | 212-255-9351 | 646-852-3117 | 1 | Hubert Huang |  | oisinmc@aol.com | Systems Infrastructure | YES | X |
| Thomas O'Gorman | 516-364-9689 | 646-852-3119 | 1 | Larry Cucinella |  |  | Systems Infrastructure | YES | X |
| Hitesh Patel | 732-422-3698 | 908-616-6190 | 1 | Michael Cohen |  | Patelhk@gmail.com | Systems Infrastructure | YES | X |
| Anthony Wang | 718-225-5269 | 917-939-1102 | 1 | Enoch Tang |  | anliang.wang@gmail.com | Systems Infrastructure | YES | X |
| Enoch Tang | 631-357-4255 | 631-357-4255 | 1 | Fabien White |  | yakko1217@gmail.com | Systems Infrastructure | YES | X |
| Fabien White | 718-444-0947 | 917-209-4788 | 1 | Anthony Wang |  | fwhite100@yahoo.com | Systems Infrastructure | YES | X |
| Romil Sharma | 201-340-4590 | 732-688-7927 | 1 | Andrew Sacco |  | romilsharma@gmail.com | Trade Support | YES | X |
| Sandra Cornwall | 347-727-7645 | 516-850-8258 | 1 | Clayton Wong |  | scsuga@msn.com | Product Control | YES | X |
| Kunal Gogia | 516-712-0217 |  | 1 | Jaimini Patel |  |  | Product Control | YES | X |
| Clayton Wong |  | 646-281-3991 | 1 | Sandra Cornwall |  |  | Product Control | YES | X |
| Mohammed Nayeef |  | 917-373-4008 |  | Greg Mann |  |  | Product Control | YES | X |
| Michael Ward | 734-417-1822 | 734-417-1822 | 3 | Kate Gervits |  | mfward@gmail.com | Compliance | YES | N/A |
| Vernice Gamble | 212-926-3022 | 917-742-7305 | 4 | Chun Yi Zheng |  |  | Accounting | YES | N/A |
| Milton Chan | 646-408-9931 | 646-408-9931 |  | Chun Yi Zheng |  | mchan65@yahoo.com | Accounting |  |  |
| Anna Shade |  | 347-325-1075 | 5 | Raymond Ho |  | shade\_anna@yahoo.com | Confirmations | NO | N/A |
| Anny Riaz | 646-249--9926 | 646-249-9926 | 5 | Nathaniel Ryan |  | annyakber@aol.com | Corporate | YES | N/A |
| Lacey Pope | 914-238-0220 | 914-474-9516 | 5 | Amanda Feltzer |  |  | Transaction Management | YES | N/A |
| Scott Callahan | 203-594-9304 | 646-416-4802 | 7 | David Feldman |  | sccinuk@yahoo.co.uk | Rates Trading | YES | N/A |
| Mony Abergel | 646-692-4202 | 917-657-2791 | 7 | Raju Shanmuganathan | 917-657-2791 | monygel@hotmail.com | Sales Trading | YES | N/A |
| Frank Buonarota | 908-591-2589 |  | 7 | Dima Patek |  |  | Systems Development | YES | N/A |
| Ming Hu | 646-496-7286 |  | 7 | Daren Chapin |  |  | Systems Development | YES | N/A |
| Kate Gervits | 347-563-3423 |  | 14 | Virginia Harnisch |  |  | Compliance | NO | N/A |
| Yaman Atici | 540-267-6272 |  | 14 | n/a |  |  | Risk Management | YES | N/A |
| Tommy Mou | 852-9860-2705 |  | Remote in HK | n/a |  |  | Systems Infrastructure | YES | N/A |
| Asami Ota |  | 011-44-7445691866 | Remote in LN | n/a |  |  | Credit | YES | N/A |
| Jason Roth |  | +44 (0) 7539 349237 | Remote in LN | Mikhail Vlasov |  | jroth2@gmail.com | Systems Development | NO | N/A |
| Mikhail Vlasov | 7554353903 |  | Remote in LN | Jason Roth |  |  | Systems Development | NO | N/A |
| Michiko Miura | 917-406-3628 | 917-406-3628 | Work remotely | Masafumi Noritsune |  | michiko\_miura@hotmail.com | Planning | YES | N/A |
| Masafumi Noritsune | 917-267-5941 | 917-267-5951 | Work remotely | Takahiro Nishikawa |  | [ymir0226@gmail.com](mailto:ymir0226@gmail.com) | Planning | YES | N/A |
| Amy Chung | 631-678-8639 | 631-678-8639 | Work remotely | Maria Regan |  |  | Settlements | YES | N/A |
| Maria Regan | 914-698-0938 |  | Work remotely | Amy Chung |  |  | Settlements | NO | N/A |

# Appendix C: Calling Tree

| **Primary Contact** | **Name** | **Home Phone** | **Mobile Phone** | **Alt. Phone** | **Home E-mail** |
| --- | --- | --- | --- | --- | --- |
| **Tom Sutton[[8]](#footnote-9)**  (BCDR Supervisory Personnel) | Du, Yunson | 914-713-4372 | 917-428-5257 |  | [yunson\_du@yahoo.com](mailto:yunson_du@yahoo.com) |
| Kivlehan-Sutton, Maureen | 201-391-4916 | 201-819-2658 |  | [maureensutton5@gmail.com](mailto:maureensutton5@gmail.com) |
| Aosaka, Yasuhiko | 646-398-9272 | 347-255-6923 |  | y-aosaka@w3.dion.ne.jp |
| Moore\*, Gus | 212-721-7892 | 917-842-2563 | 917-566-4909 | [rpg4003@gmail.com](mailto:rpg4003@gmail.com) |
| Sato, Ryoji |  | 917-613-0022 | 212-224-5001 (Office) | [ryojisato@gmail.com](mailto:ryojisato@gmail.com) |
| Yates, Antony | 01959 532 182 | 07831 801 639 | 020 3527 7401 (Office) | [errar.highcroft@live.com](mailto:errar.highcroft@live.com) |
|  | Berman, Erin | 212-224-4910 | 732-533-9681 |  |  |
|  | Chapin\*, Daren | 212-604-0639 | 917-501-9672 |  | [daren.chapin@gmail.com](mailto:daren.chapin@gmail.com) |
|  | Cohen\*, Michael | 732-241-6100 |  |  |  |
|  | Stolbof, Paul | 201-264-7760 |  |  |  |
|  | Watson, Kylie | 212-741-8126 | 646-210-3968 |  | [kylie\_watson@yahoo.com](mailto:kylie_watson@yahoo.com) |
| **Gus Moore**,  (BCDR Supervisory Personnel) | Aoki, Yoshifumi | 212-600-4266 | +81-90-8505-4097 |  |  |
|  | Dizon, Emmanuel | 646-456-1135 |  |  |  |
|  | Gamble\*, Vernice | 212-926-3022 | 917 742-7305 |  |  |
|  | Harnisch, Virginia | 516-569-1301 | 646-201-8510 |  | [virginiaharnisch@gmail.com](mailto:virginiaharnisch@gmail.com) |
|  | Majid, Ash |  | 404-641-2335 |  |  |
|  | Pope, Lacey |  | 914-474-9516 |  |  |
|  | Murohashi\*, Tetsuro |  | 917-597-1357 |  |  |
| **Yasuhiko Aosaka**, (BCDR Supervisory Personnel) | Nishikawa, Takahiro | 646-715-8270 |  |  | [nishikawa0707@gmail.com](mailto:nishikawa0707@gmail.com) |
| **Maureen Kivlehan-Sutton**, (BCDR Supervisory Personnel) | DuPuy, Robert |  | 646-300-3648 |  |  |
|  | McGuinness , Oisin | 212-255-9351 | 646-852-3117 |  | oisinmc@aol.com |

The Company Calling Tree is generated on the 1st of every month and can be found in the following location:

K:\BCPCallingTree

# Appendix D: Important Phone Numbers For BCDR

**The SMBC Business Continuity Hotline**

1-800-938-2359

**Systems Infrastructure Help Desk**

|  |  |
| --- | --- |
| **Name** | **Contact Information** |
| 277 Park Avenue | 212-224-4900 |
| Hawthorne | 646-874-5880 |
| Wappingers Falls | 845-296-5425 |
| Princeton | 646-874-5950 |
| Woodbury | 646-874-5928 |

|  |  |
| --- | --- |
| **SECURITY / 24 HRS. 7 DAYS A WEEK** |  |
| SMBC | 212-224-4326 |
| SMBC CM | 212-224-5000 |
| SFD NY | 212-224-4582 |
| POLICE, FIRE, MEDICAL | 911 / 212-628-2900 |
| **TENANT REPRESENTATIVES:** |  |
| Jim Perry | 212-826-7060 |
| Dave Kramer | 212-826-7060 |
| Building Services | 212-826-2158 |
| After Office Hours | 212-826-2159 |
| **TRANSPORTATION:** |  |
| City Bus & Subway | 718-330-1234 |
| Staten Island Ferry | 718-225-5368 |
| NY Waterway Ferry | 1-800-53-FERRY |
| Metro North | 212-532-4900 Or 800-Metro-Info |
| LIRR | 718-217-LIRR |
| Amtrak | 800-872-7245 |
| Conrail | 800-228-4661 |
| Port Authority (Buses) | 212-564-8484 |
| Path | 800-234-PATH |
| Port Authority Police | 201-216 2677 |
| NYC Car Service | 718-643-6053 |
| Staten Island Ferry | (718) 815-BOAT - pre-recorded schedule info.  (718) 390-5253 - human |
| Metro North | (212) 532-4900 |
| Long Island Railroad | (718) 217-5477 |
| Amtrak | (212) 582-6875 |
| Port Authority (Bus) | (212) 564-8484 |
| NJ Transit | (800) 772-2222 (When dialing from New Jersey)  (215) 569-3752 (When dialing from Pennsylvania)  (973) 762-5100 (When dialing from New York and elsewhere) |
| Path Train | (800) 234-7284 |
| Carey Transportation (Airport) | (800) 336-4646 |
| Olympia Trails (Airport) | (212) 964-6233 |
| Car Service | New York Two Way Intl(718) 643-6520 Acct. # 02386 |

**277 Park Avenue Building Management**

|  |  |
| --- | --- |
| **Name** | **Contact Information** |
| Mr. Jim Perry  Mr. David Kramer | Services: (212) 826-1875 / 1862  Emergency Conditions: (212) 826-2158 / 2159 |

**Harborside (Backup Data Center)**

|  |  |
| --- | --- |
| **Name** | **Contact Information** |
| 24 Hour Support  Customer Service Desk  Tom Leo  Masako Fujita  John Kuczma  Girish Ahuja  Wes Collins | Computer Operations: 201 577-3333  7am to 7pm: 212 224-4357  Head of Data Center - Direct: 201 577-3301, Cell: 646 208-3242  Assistant - Direct: 201 577-3331, Cell: 646 879-0666  Head of Computer Operations - Direct: 201 577-3330 Cell: 646 879-4718  Global Systems Manager - Direct: 201 577-3311 Cell: 646 879-4712  Business Recovery Coordinator - Direct 201 577-3305 Cell: 646 879-4715 |

**Cervalis (Wappingers Falls Backup Site)**

|  |  |
| --- | --- |
| **Name** | **Contact Information** |
| Main Tel: | Customer Assistance Center: 212-877-1622 **BEST TO USE THIS NUMBER FIRST**  General Number: 866-602-2020 |

**Tierpoint (Hawthorne Backup Site)**

|  |  |
| --- | --- |
| **Name** | **Contact Information** |
| Main Tel: | Customer Assistance Center: 212-877-1622 (**BEST TO USE THIS NUMBER FIRST)**  General Number: 866-602-2020 |

**Tierpoint (Princeton Backup Site)**

|  |  |
| --- | --- |
| **Name** | **Contact Information** |
| Main Tel: | Continuity Centers Customer Service : 877-499-2577 or 516-622-0200 |

**Tierpoint (Woodbury Backup Site)**

|  |  |
| --- | --- |
| **Name** | **Contact Information** |
| Main Tel: | Continuity Centers Customer Service : 877-499-2577 or 516-622-0200 |

**Kinko’s, Inc.**

|  |  |
| --- | --- |
| **Name** | **Contact Information** |
| Customer Relations Hotline | (800) 2KI-NKOS |

**Security - (277 Park Avenue)**

|  |  |
| --- | --- |
| **Name** | **Contact Information** |
| Gary Rotenberg | (212) 224-4264 or (646) 879-1014 |
| Security Guard | (212) 224-4326 |

**Public Relations**

|  |  |
| --- | --- |
| **Name** | **Contact Information** |
| William Haney | 277 Park Ave. NY |
|  | Office: (212) 224-4417  Home (212) 829-1980 |

**Insurance Agent**

|  |  |
| --- | --- |
| **Name** | **Contact Information** |
| J&H Marsh- Broker  1166 Ave of Americas  New York, NY 10036 | Peter L. Joe Yen (212) 345-6534  David Petrone (212) 345-5018 |

**Head Office**

|  |  |
| --- | --- |
| **Name** | **Contact Information** |
| Hideo Goto | GM of Securities Business Department, SMBC |
|  | Office: 81 3-4333-8595  Cell Phone: 81 80-6606-5105 |

**Legal Counsel**

|  |  |
| --- | --- |
| **Name** | **Contact Information** |
| William Haney | 277 Park Ave. |
|  | Office: (212) 224-4417  Home (212) 829-1980 |

**Hospital**

|  |  |  |
| --- | --- | --- |
| **Location** | **Name** | **Contact Information** |
| NY | Beth Israel Medical Center | 55 E. 34th St.  New York, NY 10016  (212) 252-6000 |
| Harborside | St. Mary Hospital | 25 Mcwilliams Pl  Jersey City, NJ 07302  (201) 418-1000 |
| Wappingers Falls | Vassar Brothers Medical Center | 45 Reade Place  Poughkeepsie, NY 12601  845-454-8500 |
| Hawthorne | Westchester Medical Center | 100 Woods Road  Valhalla, NY 10595  914-493-7000 |

**Police / FBI / Fire Department**

|  |  |
| --- | --- |
| **Name** | **Contact Information** |
| 18th Precinct | Call for Threat Advisory Status  (212) 760-8300 |
| Police for emergency | 911 |
| FBI | (212) 384-1000 |
| Fire Department  for emergency | 911 |

**Off-site Records Retention**

|  |  |
| --- | --- |
| **Name** | **Contact Information** |
| Vital Records Inc.  563 New Center Rd.  Flagtown, NJ 08821 | Account Rep: Jim Crisci  Phone #: 908-369-6900  Account #: 0003411 |

**Area Hotels**

|  |
| --- |
| **Contact Information** |
| **New York / Hawthorne / Harborside / Wappingers Falls / Princeton / Woodbury:** |
| New York Marriott East Side  New York, NY 10017  (212) 755-4000  Comfort Inn and Suites  20 Saw Mill River Road  Hawthorne, New York 10532  (914) 592-8600  (800) 228-5150  Quality Inn  180 12th St.  Jersey City, NJ 07310  (201) 653-0300  Hampton Inn and Suites  2361 South Road  Poughkeepsie, NY 12601  (845) 463-7500  Courtyard Princeton  3815 US-1  Princeton, NJ 08540  Best Western Woodbury Inn  7940 Jericho Turnpike  Woodbury, NY 11797 |

**Office Space / Business Center Rental Companies**

|  |  |
| --- | --- |
| **Name** | **Contact Information** |
| Alliance Business Centers | 599 Lexington Avenue  New York, NY  212-836-4800 |
| HQ Business Centers | 11 Penn Plaza  New York, NY  212-946-2800 |
| Omni Offices | 21st Floor  590 Madison Avenue  New York, NY 10022  TEL: (212) 521-4000  FAX: (212)521-4099 |

# Appendix E (Systems Infra.): Technology in Place at Harborside and user recovery sites

As of November 2016 the configuration at Harborside include the following items. During the test, the hardware inventory should be confirmed and the list corrected as needed. These are described in more detail in the cutover chapter and in the next section.

**Computer Hardware** - each of these has the required system software licensed and installed.

1. 1 EMC VMAX 10K Symmetrix Storage Array
2. 2 EMC RecoverPoint Appliances
3. 1 EMC DataDomain 670 Storage
4. 2 Cisco MDS9222i SAN Switches
5. 14 UNIX managed servers/devices ( 9 RHEL HP Blade Servers, 1 Cisco Ironport ESA, 1 Cisco Ironport WSA, 1 Cisco Ironport SMA, 1 SEMS, 2 Terminal Servers)
6. 2 Citrix NetScaler MPX 5500 Enterprise Editions
7. 1 OneSign Appliance
8. 80 Windows 7 Workstations in Hawthorne, NY
9. 32 Windows 7 Workstations in Wappinger Falls, NY
10. 10 Windows 7 Workstations in Princeton, NJ
11. 15 Windows 7 Workstations in Woodbury, NY
12. 81 Windows 2008/2012 servers in Harborside, NJ
13. 7 VMWare VSphere ESXi 5.5 Servers
14. 1 Oracle Linux 5.7
15. 1 SUSE Linux Enterprise 11

**Application Software** - this is all the common software SMBC-CM runs at 277 Park plus any special applications. These are installed on servers and workstations depending on the application. The normal distribution management, file systems synchronization mechanisms, and backup procedures should keep these current.

|  |  |
| --- | --- |
| \* | ABIRS |
| \* | ALIB |
| \* | Banker's Almanac |
| \* | Blackberry |
| \* | Blackbird |
| \* | BLAST |
| \* | Bloomberg Market Data Terminal |
| \* | Bloomberg SSEOMS |
| \* | Bloomberg TOMS |
| \* | Bridger Insight XG |
| \* | Broker Tec |
| \* | CanDeal |
| \* | Cantor eSpeed |
| \* | Capital IQ |
| \* | CIBC Electronic Workbench |
| \* | Citrix XenApp |
| \* | CM Trading Machine |
| \* | CSFB Prime Trade |
| \* | Currenex |
| \* | DACS |
| \* | DealAxis |
| \* | Dealogic Event Manager |
| \* | Deutsche Bank Autobahn |
| \* | Eikon |
| \* | Electronic (On Line) Deal Ticket |
| \* | Elf General Ledger |
| \* | Elf Reval |
| \* | EMoneyger |
| \* | Euclid PC |
| \* | FICC Government Trade Reporting |
| \* | FICC Municipal Trade Reporting |
| \* | Front Office Models |
| \* | FX All Altair |
| \* | FX All Settlement Center |
| \* | FX All Treasury Center |
| \* | FXAll |
| \* | GCM |
| \* | HRD |
| \* | ICAP ETC |
| \* | I-STAR |
| \* | iSwap |
| \* | JPMC - Links on Line (CLS) |
| \* | JPMC Access |
| \* | JPMC BDAS |
| \* | Leversys DRINA |
| \* | Lexis Nexis |
| \* | Live Rates |
| \* | Lotus Notes |
| \* | Maple 15 |
| \* | Market Axess |
| \* | MarketView |
| \* | MarkitWire (formerly SwapsWire) |
| \* | MatLab |
| \* | Maximizer |
| \* | Moody's KMV |
| \* | Noteline |
| \* | Omgeo Alert |
| \* | Omgeo Oasys |
| \* | One Source |
| \* | Pershing - NetX360 |
| \* | Prebon Yamane |
| \* | Prism |
| \* | RCD (Remediation Control Database) |
| \* | Reuters Dealing & Deal Tracker |
| \* | S&P RatingsXpress |
| \* | Sharepoint / KnowledgeLake |
| \* | Shorcan |
| \* | SourceOne |
| \* | Star |
| \* | SWIFT Accord |
| \* | SWIFT Alliance (SAA) |
| \* | TRACE |
| \* | TradeWeb |
| \* | Trading Technolgies X-Trader |
| \* | Trad-X |
| \* | TRTN |
| \* | Tullet tpCADDEAL |
| \* | VASCO |
| \* | WebCRD |

**Network** - This should be a duplicate of all aspects of the 277 Park networks except for the Internet link

 Verizon SONET circuit between 277 Park Avenue and Harborside.

 1 Zayo/Abovenet circuit between 277 Park Avenue and Harborside.

 NY/NJ CUCM PBX

**Telephones** -

* 26 VoIP phones located at the Wappingers Falls location
* 72 VoIP phones located at the Hawthorne location
* 17 VoIP phones located at the Woodbury location
* 10 VoIP phoned located at the Princeton location

**Other**

1. Fax Machine in CM BRS
2. Copy Machine (in storage)

**Cabling** – All user desk positions collapse to local IDF closets (Wappingers Falls, Princeton, Woodbury and Hawthrone) where LAN hardware is located (Cisco 3560 , Cisco 4510).

Server and Workstation Names and Assignments

| **UNIX Servers** | |
| --- | --- |
|  |  |
| **NJRHFS1** | - DNS  - NTP  - Web Server  - Prism Folders 2  - Systems applications |
| **NJRHFS2** | - File Server: Export (E:)  - Prism Folders 1  - Web Server , Market View |
| **NJINTERGATE** | - Internet Application Gateway, External Web Server |
| **NJIRONPORT** | - Internet Mail Gateway |
| **NJPGP1** | - Internet Mail Encryption Server |
| **NJWEBSEC1** | - Internet Proxy Server |

|  |  |  |  |
| --- | --- | --- | --- |
| **Windows Managed Servers** | | | |
| **Host Name** | **Physical/Virtual** | **APPLICATIONS** | **O / S** |
| NJVMSQL03 | Virtual | SQL Server | Microsoft Windows Server 2008 R2 Enterprise |
| NJBLCL1 | Physical | File Cluster -Department File Shares, Home Directories | Microsoft Windows Server 2008 R2 Enterprise |
| NJBLCL2 | Physical | File Cluster -Department File Shares, Home Directories | Microsoft Windows Server 2008 R2 Enterprise |
| NJCVMA | Physical | Commvault Simpana | Microsoft Windows Server 2008 R2 Standard |
| NJFOLDERS | Physical | Prism Folders Repository | Microsoft Windows Server 2008 R2 Standard |
| NJBLMOM01 | Physical | Microsoft System Center Operations Manager 2012 | Microsoft Windows Server 2008 R2 Standard |
| NJEMCMGT | Physical | EMC Management | Microsoft Windows Server 2008 R2 Standard |
| NJDRCOMMSERV | Virtual | Commvault Simpana | Microsoft Windows Server 2008 R2 Standard |
| NJHVESRS | Virtual | EMC Call Home Server | Microsoft Windows Server 2008 R2 Standard |
| NJMQ | Virtual | Backup IM WepSphere MQ and MQFTE | Microsoft Windows Server 2008 R2 Standard |
| NJPRINT | Virtual | Print Server | Microsoft Windows Server 2008 R2 Standard |
| NJVMAPPSER1 | Virtual | Development App Server | Microsoft Windows Server 2008 R2 Standard |
| NJVMAPPSER2 | Virtual | Development App Server | Microsoft Windows Server 2008 R2 Standard |
| NJVMAPPSER3 | Virtual | Development App Server | Microsoft Windows Server 2008 R2 Standard |
| NJVMAPPSER4 | Virtual | Development App Server | Microsoft Windows Server 2008 R2 Standard |
| NJVMAPPSER5 | Virtual | Development App Server | Microsoft Windows Server 2008 R2 Standard |
| NJCMDTCR | Virtual | Backup Citrix Command Center | Microsoft Windows Server 2008 R2 Standard |
| NJVMAPPSER6 | Virtual | Development App Server | Microsoft Windows Server 2008 R2 Standard |
| NJVMAPPDEV1 | Virtual | Development App Server | Microsoft Windows Server 2008 R2 Standard |
| NJVMPRTPCS01 | Virtual | Backup Cisco Telepresense Communication Server | Microsoft Windows Server 2008 R2 Standard |
| NJVMPRSP02 | Virtual | Backup SharePoint 2010 Server | Microsoft Windows Server 2008 R2 Standard |
| NJVMGDS01 | Virtual | Secondary Good Dynamics Server | Microsoft Windows Server 2008 R2 Standard |
| NJVMRBVR02 | Virtual | RedBox Voice Recording Playback | Microsoft Windows Server 2008 R2 Standard |
| NJVMBES | Virtual | Blackberry | Microsoft Windows Server 2008 R2 Standard |
| NJVMCTXWEBINT | Virtual | Citrix WebInterface / License Server | Microsoft Windows Server 2008 R2 Standard |
| NJVMGMS | Virtual | Good for Enterprise | Microsoft Windows Server 2008 R2 Standard |
| NJVMMQ | Virtual | IBM WebSphere MQFTE | Microsoft Windows Server 2008 R2 Standard |
| NJVMORACLE01 | Virtual | Oracle | Microsoft Windows Server 2008 R2 Standard |
| NJVMORACLE01T | Virtual | Oracle | Microsoft Windows Server 2008 R2 Standard |
| NJVMRBVR01 | Virtual | Voice Recorder | Microsoft Windows Server 2008 R2 Standard |
| NJVMSONESQL | Virtual | SQL Server, EMC SourceOne | Microsoft Windows Server 2008 R2 Standard |
| NJVMSONESUPER | Virtual | EMC SourceOne Supervisor | Microsoft Windows Server 2008 R2 Standard |
| NJVMSONESUPSQL | Virtual | SQL Server, EMC SourceOne Supervisor | Microsoft Windows Server 2008 R2 Standard |
| NJVMSONEWEB1 | Virtual | SourceOne Master / Web / Archive Server | Microsoft Windows Server 2008 R2 Standard |
| NJVMSONEWEB2 | Virtual | SourceOne / Web / Archive Server | Microsoft Windows Server 2008 R2 Standard |
| NJVMSQLWITNESS | Virtual | SQL Server | Microsoft Windows Server 2008 R2 Standard |
| NJVMVASCO | Virtual | Vasco Authentication Server | Microsoft Windows Server 2008 R2 Standard |
| NJVMVIM | Virtual | Virtual Center | Microsoft Windows Server 2008 R2 Standard |
| NJVMXENAPP01 | Virtual | Citrix XenApp | Microsoft Windows Server 2008 R2 Standard |
| NJVMXENAPP02 | Virtual | Citrix XenApp | Microsoft Windows Server 2008 R2 Standard |
| NJVMXENAPP03 | Virtual | Citrix XenApp | Microsoft Windows Server 2008 R2 Standard |
| NJVMXENAPP04 | Virtual | Citrix XenApp | Microsoft Windows Server 2008 R2 Standard |
| NJVMXENAPP05 | Virtual | Citrix XenApp | Microsoft Windows Server 2008 R2 Standard |
| NJVMXENAPP06 | Virtual | Citrix XenApp | Microsoft Windows Server 2008 R2 Standard |
| NJVMBBGATEWAY | Virtual | Bloomberg Gateway | Microsoft Windows Server 2008 R2 Standard |
| NJVMLS01 | Virtual | Knowledge Lake Licensing Server | Microsoft Windows Server 2008 R2 Standard |
| NJVMCAPTURE01 | Virtual | Knowledgelake Capture Server | Microsoft Windows Server 2008 R2 Standard |
| NJNOTES | Physical | Lotus Domino Mail | Microsoft Windows Server 2008 R2 Standard |
| NJBLAPPSER1 | Physical | Star Reval. Theta. TDB. Prism Reval. Credit Eval | Microsoft Windows Server 2008 R2 Standard |
| NJBLSP01 | Physical | Sharepoint | Microsoft Windows Server 2008 R2 Standard |
| NJXENAPP02 | Physical | Citrix XenApp | Microsoft Windows Server 2008 R2 Standard |
| NJBLSQL04 | Physical | Microsoft SQL | Microsoft Windows Server 2008 R2 Standard |
| NJPRISMSQL2 | Physical | Prism | Microsoft Windows Server 2008 R2 Standard |
| NJXENAPP01 | Physical | Citrix XenApp | Microsoft Windows Server 2008 R2 Standard |
| CMLOGIN08 | Physical | User Domain Authentication | Microsoft Windows Server 2008 R2 Standard |
| NJCMLOGIN02 | Physical | User Domain Authentication | Microsoft Windows Server 2008 R2 Standard |
| NJSCCM01 | Physical | Microsoft System Center Configuration Manager 2007 R2 | Microsoft Windows Server 2008 R2 Standard |
| NJAPPSER1 | Virtual | Development App Server | Microsoft Windows Server 2008 Standard |
| NJSQL00 | Virtual | SharePoint 2007 Content and configuration database server, Mirrored SQL database server for NYBLSQL01 | Microsoft Windows Server 2008 Standard |
| NJVMDEVFS1 | Virtual | Development File Server | Microsoft Windows Server 2008 Standard |
| NJCMLOGIN01 | Virtual | Domain Controller | Microsoft Windows Server 2012 R2 Standard |
| NJVMDVAPPSER9 | Virtual | Development App Server | Microsoft Windows Server 2012 R2 Standard |
| NJVMPRAPPSER9 | Virtual | Development App Server | Microsoft Windows Server 2012 R2 Standard |
| NJVMPRTT01 | Virtual | Trade Tracker for RBC | Microsoft Windows Server 2012 R2 Standard |
| NJVMPRTT02 | Virtual | Trade Tracker for HSBC | Microsoft Windows Server 2012 R2 Standard |
| NJVMPRWDS | Virtual | Windows Deployment Services | Microsoft Windows Server 2012 R2 Standard |
| NJVMPRSQLEHE | Virtual | Backup SQL Server for EHE | Microsoft Windows Server 2012 R2 Standard |
| NJVMPRCONCUR | Virtual | Backup Concur Web Server | Microsoft Windows Server 2012 R2 Standard |
| NJVMPRMAXIMIZER | Virtual | Backup Maximizer application server | Microsoft Windows Server 2012 R2 Standard |
| NJVMPRSTAR | Virtual | Backup Star Database Host Server | Microsoft Windows Server 2012 R2 Standard |
| NJVMPREPO01 | Virtual | Backup McAfee ePolicy Orchestrator Server (OS Build only) | Microsoft Windows Server 2012 R2 Standard |
| NJVMBACKTEST | Virtual | Development App Server | Microsoft Windows Server 2012 R2 Standard |
| NJVMPRSAMETIME | Virtual | Lotus Domino Sametime Server | Microsoft Windows Server 2012 R2 Standard |
| NJVMPRVANTAGE | Virtual | Production Actiance Vantage server | Microsoft Windows Server 2012 R2 Standard |
| NJVMPRPRINT | Virtual | Backup Print Server | Microsoft Windows Server 2012 R2 Standard |
| NJVMPRLYNC01 | Virtual | NJ Lync Server | Microsoft Windows Server 2012 R2 Standard |
| NJUPDATE | Virtual | Shavlik Security Patching | Microsoft Windows Server 2012 R2 Standard |
| NJBLCIF01 | Physical | Microsoft SQL, CIF | Microsoft Windows Server 2012 R2 Standard |
| NJBLAPPS | Physical | Lotus Domino Applications | Microsoft Windows Server 2012 R2 Standard |
| NJBLARCHIVE | Physical | Lotus Domino Archive | Microsoft Windows Server 2012 R2 Standard |
| NJWINMGT01 | Physical | NJ Management Software Server | Microsoft Windows Server 2012 R2 Standard |
| NJWEBDEV1 | Virtual | External Web Site Development for SI and LTD. | Oracle Linux 5.7 |
| NJVROPS | Virtual | VMware Operations Manager | SUSE Linux Enterprise 11 |
| NJINETESX1 | Physical | Hosts "njpgp1" | VMWare ESXi 5.5 |
| NJBLESX1 | Physical | Vmware Hyper Visor 5.5 | VMWare ESXi 5.5 |
| NJBLESX2 | Physical | Vmware Hyper Visor 5.5 | VMWare ESXi 5.5 |
| NJBLESX3 | Physical | Vmware Hyper Visor 5.5 | VMWare ESXi 5.5 |
| NJBLESX4 | Physical | Vmware Hyper Visor 5.5 | VMWare ESXi 5.5 |
| NJBLESX5 | Physical | Vmware Hyper Visor 5.5 | VMWare ESXi 5.5 |
| NJBLESX6 | Physical | Vmware Hyper Visor 5.5 | VMWare ESXi 5.5 |

|  |  |
| --- | --- |
| **Marketdata Servers (TREP)** | |
| **NJADS1** | TREP ADS Server |
| **NJADS2** | TREP ADS Server |
| **NJADH1** | TREP ADH Server |
| **NJATS1** | TREP Advanced Transformation Server |
| **NJTRIAPPS1** | MarketView Backend Server |
| **NJDACS** | DACS 6.4 MarketData Access control |
|  | |

# APPENDIX F (Systems Infra.): IT Vendor Contact Information



1. No individual SEF is considered a “critical third party” as there are one or more other SEFs through which the Firm can execute any product required to be executed through a SEF. [↑](#footnote-ref-2)
2. The Firm does not presently contract with disaster recovery specialists; however, should the Firm do so in the future, a plan to communicate with such persons or organizations in the event of an emergency or other disruption must be included in this Plan. [↑](#footnote-ref-3)
3. The Firm is a member of nine SEFs, the names and contact information for which is Section 5.2.2 (“Communicating with Execution and Trading Facilities”). No individual SEF is considered “critical” as there are one or more other SEFs through which the Firm can execute any product required to be executed through a SEF. [↑](#footnote-ref-4)
4. If this column indicates that a person may be essential at the backup site on day 1, this means that it may be necessary that this person (or a designated backup) be physically present at the backup site on day 1. [↑](#footnote-ref-5)
5. This person’s role in the event of an emergency would be primarily limited to decision making, consulting, or supervision; as such, this person would not require a workstation at a backup site or through remote access on day 1. [↑](#footnote-ref-6)
6. This person’s role in the event of an emergency would be primarily limited to decision making, consulting, or supervision; as such, this person would not require a workstation at a backup site or through remote access on day 1. [↑](#footnote-ref-7)
7. This person’s role in the event of an emergency would be primarily limited to decision making, consulting, or supervision; as such, this person would not require a workstation at a backup site or through remote access on day 1. [↑](#footnote-ref-8)
8. Tom Sutton’s contact information is included in Appendix A. [↑](#footnote-ref-9)