



COMISIÓN NACIONAL DE SEGUROS Y FIANZAS



México, D. F., a 16 de noviembre de 1998.

Oficio Circular SF- 42/98

**Asunto:** Seguimiento al programa para  
Modificar los sistemas informáticos que  
Reciban el impacto del inicio del año  
2000.

**A LAS INSTITUCIONES Y SOCIEDADES  
MUTUALISTAS DE SEGUROS E  
INSTITUCIONES DE FIANZAS**

Esta Comisión con fundamento en los artículos 107 de la Ley General de Instituciones y Sociedades Mutualistas de Seguros y 67 de la Ley Federal de Fianzas y con el propósito de dar seguimiento al **"Programa para modificar los sistemas informáticos que reciban el impacto del inicio del año 2000"**, dado a conocer mediante Oficio Circular SF-11/97 del 22 de julio de 1997, les solicita que entreguen a más tardar el 30 de noviembre del presente año de 9:00 a 15:00 y de 17:00 a 19:00 horas, en la Dirección General de Informática de este Organismo, la siguiente información.

- a) El formato de autoevaluación y seguimiento del **"Proyecto de Conversión Año 2000"**, dado a conocer en los Oficios Circulares S-109/98 y F-09/98 ambos del 11 de septiembre de 1998, debidamente llenado, por escrito, y en medio magnético, con fecha de corte al 25 de noviembre del año en curso.
- b) Los datos generales del auditor externo que dictaminará sobre la capacidad de su empresa para enfrentar el año 2000.
- c) Los planes de contingencia, definiendo: responsables de ejecución, evaluación de puntos potencialmente en peligro de la infraestructura informática y de comunicaciones, así como de los sistemas en operación y por último sus planes de restauración del servicio.
- d) Copia del acta del Consejo de Administración que contenga el informe de la Dirección General de la empresa, sobre los avances del tema que nos ocupa. Si a la fecha que se indica no han llevado a cabo dicha junta de Consejo, deberán presentar dicha copia dentro de los siguientes diez días a su celebración.
- e) Los datos generales de la persona designada como vocero oficial para informar sobre los avances de su empresa en este asunto.

En caso de que ya hubiesen entregado alguno de los documentos antes mencionados, sólo basta con que así lo mencionen, indicando la fecha de dicha entrega.

Asimismo, y por recomendación del Grupo de Coordinación de Alto Nivel presidido por el Banco de México, se anexa para su conocimiento el documento de "**Recomendaciones para Pruebas Externas de la Infraestructura Financiera**", emitido por el Global 2000 Co-ordinating Group.

Lo anterior se hace de su conocimiento con fundamento en los artículos 108, fracción IV de la Ley General de Instituciones y Sociedades Mutualistas de Seguros y 68, fracción VI de la Ley Federal de Instituciones de Fianzas.

Atentamente,  
SUFRAGIO EFECTIVO. NO REELECCION.  
COMISION NACIONAL DE SEGUROS Y FIANZAS  
EL PRESIDENTE



LIC. MANUEL AGUILERA VERDUZCO

ANEXO





Global 2000  
Co-ordinating Group

[www.global2k.com](http://www.global2k.com)

An informal grouping of Banks, Securities Firms, and Insurance Companies whose aim is to identify and resource areas where co-ordinated initiatives will facilitate efforts by the global financial community to improve the readiness of global financial institutions to meet the challenges created by the Year 2000 date change.

Tim Shephard- Walwyn Chairman Bill Mundt Secretariat	Argentina	Hong Kong	Romania	c/o UBS AG P.O. Box CH-8098 Zürich / Switzerland  <b>Bill Mundt</b> Global 2000 Project Peikanstrasse 6 CH-8098 Zürich Tel. +41.1.234.8213 Fax. +41.1.234.8527 <a href="mailto:Bill.Mundt@ubs.com">Bill.Mundt@ubs.com</a>
	Australia	Hungary	Russian Federation	
	Belarus	India	Singapore	
	Belgium	Italy	Slovak Republic	
	Brazil	Japan	Slovenia	
	Canada	Latvia	South Korea	
	China	Lithuania	Spain	
	Croatia	Luxembourg	Sweden	
	Czech Republic	Mexico	Switzerland	
	Denmark	Netherlands	United Kingdom	
	Estonia	New Zealand	USA	
	France	Norway		
	Germany	Poland		

## YEAR 2000 DATE-CHANGE

### "Recommendations for External Testing of the Financial Infrastructure"

GLOBAL 2000 CO-ORDINATING GROUP

11 AUGUST 1998

[www.global2k.com](http://www.global2k.com)

## CONTENTS

### Summary

4-8

*An overview of the process and summary of the recommendations*

What should you do with this document?

4

Test Planning Process Overview

4

Identifying Financial Infrastructure Components

5

Identifying Critical Linkages

5

Guidelines for the design of Industry Tests

6

Recommended Testing Requirements

7

Example and Points to Note

7

Testing Recommendation Summary

8

Summarising Recommendations for a Market

8

### Recommended Testing Requirements

9-13

*Templates for comparing market testing levels and recommendations, with detailed rationale behind the recommendations*

Payment Systems

9

Exchanges (including Futures, Commodity and Stock Exchanges)

10

Depositories, Clearing and Netting Systems

11

Financial Service Providers

12

Market Data Providers

13

### Testing Categories

14-17

*Definitions of the categories used to define testing levels*

Testing Scope

14

Testing Hierarchy

14

Provider Testing Environment

15

Integration/Linkages

15

User Testing Requirements

16

Year 2000 Test Cases

16

Business Test Cases

17

Test Availability

17

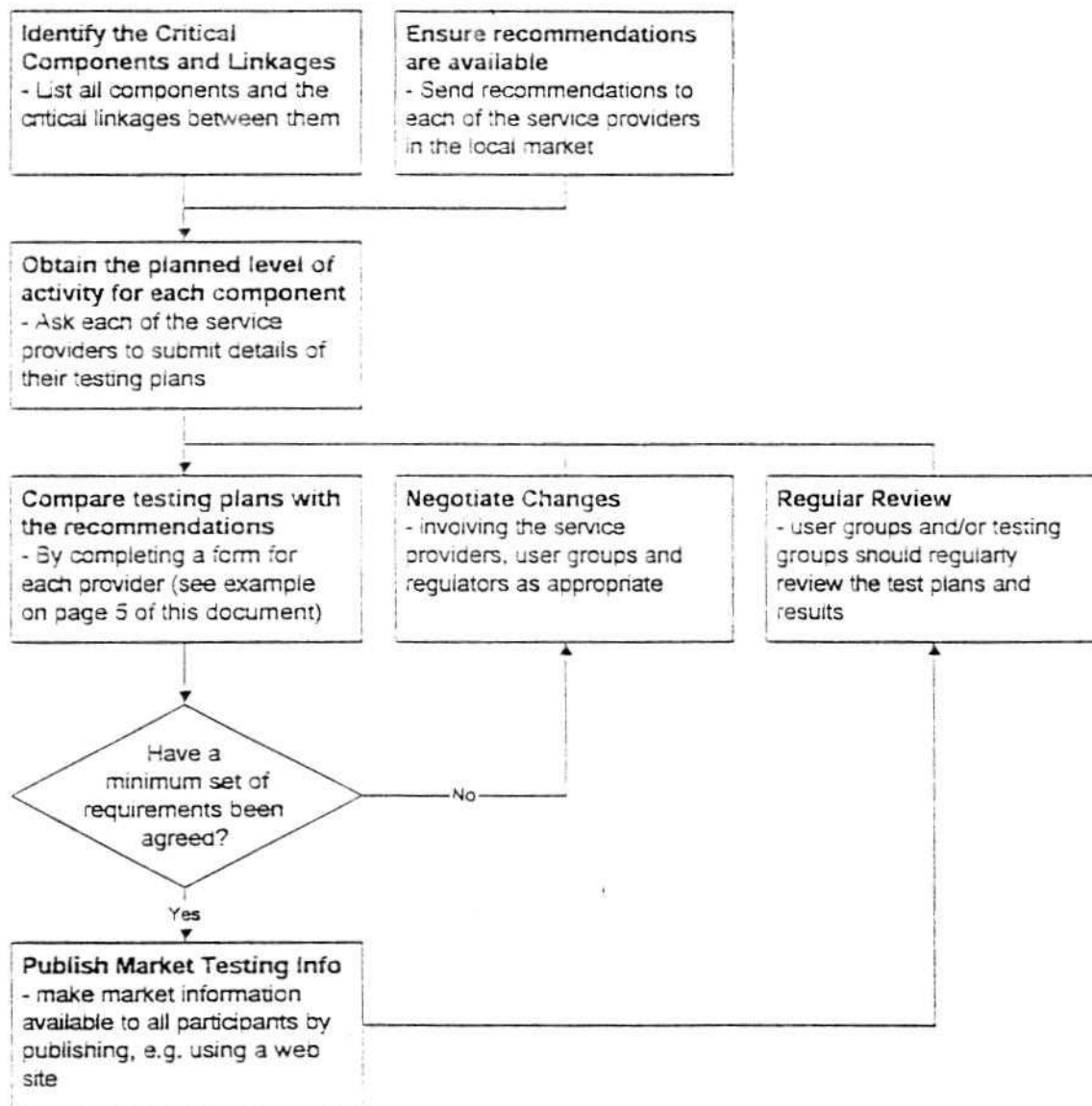
## WHAT SHOULD YOU DO WITH THIS DOCUMENT?

**Global 2000 Country Representatives** are expected, with help from other group participants, to ensure that the process outlined in the diagram below is undertaken in their market.

**Local Market Associations and Regulators** may wish to participate in this process, for example helping with negotiations and the publishing of testing information, or lead it within the local market, using this document as a template for testing.

**Service Providers** will be expected to participate in this process. They should understand the recommendations that are set out in this document and be prepared for their testing plans to be assessed against them.

## TEST PLANNING PROCESS OVERVIEW



## Recommendations for External Testing of the Financial Infrastructure

This document outlines recommendations for external testing of the financial infrastructure. These recommendations will enable financial institutions to test and monitor the Year 2000 readiness of each financial centre.

The recommendations outline the testing which the financial industry would advise for the critical financial infrastructure, such as exchanges, payment systems and clearing systems.

Guidelines are also given on the overall design of external tests, so that resources can be used most efficiently.

It is intended that this document will make it easier for financial institutions and suppliers of the infrastructure to plan and conduct tests together.

Note that this document does not describe the testing required to show system compliance internally.

---

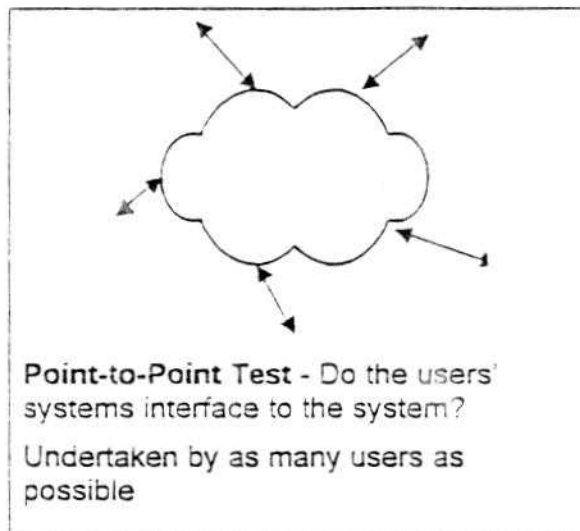
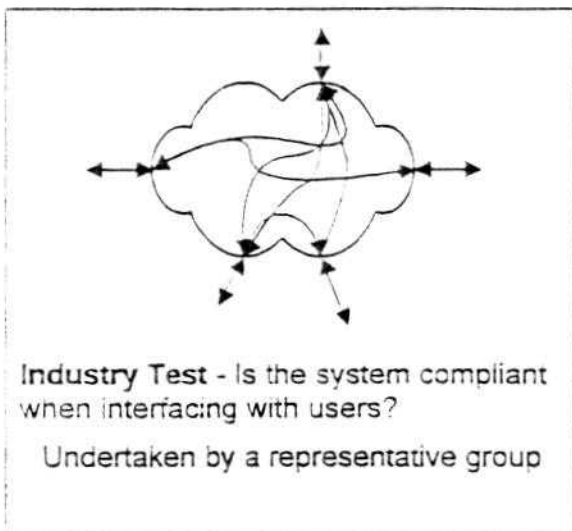
THE INFORMATION CONTAINED IN THIS "RECOMMENDATIONS FOR EXTERNAL TESTING OF THE FINANCIAL INFRASTRUCTURE" PAPER IS PROVIDED "AS IS." ALL WARRANTIES AND REPRESENTATIONS OF ANY KIND WITH REGARD TO SUCH INFORMATION ARE HEREBY DISCLAIMED, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR WARRANTIES AS TO ANY RESULTS TO BE OBTAINED FROM THE USE OF SUCH INFORMATION OR DERIVED FROM SUCH INFORMATION. The Global 2000 Co-ordinating Group, its participant firms, and all other parties that provided information for the purpose of creating the "Recommendations for External Testing of the Financial Infrastructure" paper (collectively, the "Co-ordinating Group"), shall not have any liability for any losses (in contract, tort, warranty or otherwise) incurred in connection with (i) any decision made, or any action or inaction taken by any party in reliance upon the information contained in the "Recommendations for External Testing of the Financial Infrastructure" paper; or (ii) any inaccuracies, errors or omissions in the information contained in the "Recommendations for External Testing of the Financial Infrastructure" paper. Under no circumstances will the Co-ordinating Group be liable for any ordinary, direct, consequential, incidental, special, punitive, or exemplary damages arising out of any of the foregoing, even it has been apprised of the likelihood of such damages occurring.

## GUIDELINES FOR THE DESIGN OF INDUSTRY TESTS

In order to effectively test infrastructure components such as exchanges, clearing houses and payment systems collaborative testing with users is required - widely known as industry testing. With a large number of tests to be conducted globally in a limited timeframe, it is essential that resources are used as efficiently as possible.

To ensure that an infrastructure component is compliant it is neither practical nor necessary to achieve full participation in an industry test. Beyond a small representative group - the proxy group - the incremental value of additional participants decreases significantly. Where 10 or more participants are required, the test designer will need to justify why the goals of the test cannot be met with fewer.

With a smaller proxy group conducting the industry test, other participants still need to ensure that they will be able to connect to the system in the Year 2000. This is the purpose of point-to-point testing, where facilities are typically made available over a longer period of time for users to test connectivity, giving more flexibility.



The proxy group must be carefully chosen to ensure that it is representative. Whilst large local firms are expected to take a lead, the group should also represent international firms, smaller firms and others as appropriate. Where different types of technology are used to connect to the system, these should also be included.

At least three separate occasions should be scheduled for industry tests, allowing for re-tests in case of failure. All business cases and transaction types also need to be included in the industry tests, which may affect the composition of the proxy group.

In order for testing to work successfully on this basis, three factors are critical:

**Co-ordination** - To ensure appropriate representation and distribution of effort, it is suggested that industry testing should be co-ordinated at a global level by a combination of firms, providers, supervisors and regulators.

**Information** - To allow those not participating in a test to review the results. Details of what tests were carried out, by whom, when and what the results were must be freely available to all, and should be co-ordinated by the same group.

**Forbearance** - Even where planning has reached an advanced stage, all must be prepared to adopt this concept to help ensure that sufficient resources are available to undertake all tests globally.



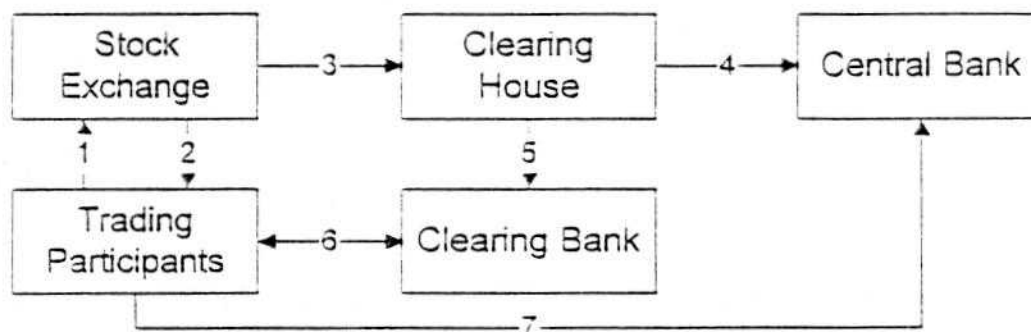
## IDENTIFYING FINANCIAL INFRASTRUCTURE COMPONENTS

A list of infrastructure providers should be drawn up for each market, and these should then be contacted, notified of these recommendations and asked for details of their market testing plans. Categories of market infrastructure provider are given below - these are indicative and may not all be present in every market.

Trading	Stock Exchanges, Futures and Commodity Exchanges
Clearing	Depositories, Clearing Houses and Clearing Systems
Payment	Payment Systems, Netting Systems, Brokers, Correspondents
Market Data	Market Data Providers

## IDENTIFYING CRITICAL LINKAGES

In order to ensure that testing of all critical linkages is being appropriately addressed, analysis of the links within a market is required. A market linkage diagram should be drawn for the market as a whole or broken down by product if appropriate. A simple example is shown below



Each link should then be assessed to ensure that appropriate testing is planned, and recommendations made where this is not the case, as in the example below. These will then add to the overall recommendations for that market.

	Link Description	Test Description
1	Order Execution	Stock Exchange industry test
2	Confirmation	Stock Exchange industry test
3	Transfer Instruction	Stock Exchange/Clearing House point to point test
4	Settlement Report	No testing planned, to be tested by the Clearing House
5	Stock Settlement	Clearing house point to point tests with participants
6	Cash Settlement	Payments System Test
7	Reporting	Paper report - no test required



## TESTING RECOMMENDATION SUMMARY

The table below summarises the recommendations for market infrastructure testing. The rationale and detailed explanations, together with recommended dates are given later in this document.

	Payment Systems	Exchanges	Depositories, Clearing and Netting Systems	Financial Service Providers <sup>1)</sup>	Market Data Providers
Testing Scope	Industry test with limited participation	Industry test with limited participation	Multilateral	Point to Point	Point to Point
Provider Testing Environment	Replica of Production Environment	Replica of Production Environment	Replica of Production Environment	Dedicated Test Environment	Dedicated Test Environment
Integration/ Linkages	Limited End to End	Limited End to End	Limited End to End	Some Integration	Limited End to End
User Testing Requirement	Mandatory for major participants <sup>2)</sup>	Mandatory for major participants <sup>2)</sup>	Mandatory for major participants <sup>2)</sup>	Optional	Optional
Year 2000 Test Cases	Complete for 2000	Complete for 2000	Complete for 2000	Limited, incl. leap year	Limited, incl. leap year
Business Test Cases	Major Categories	Major Categories	Major Categories	Major Categories	Major Categories
Test Availability	Weekdays & Weekends	Weekdays & Weekends	Weekdays & Weekends	Limited weekends	Weekdays & Weekends

Terms used in the table are defined on pages 12-15 of this document.

- 1) Financial Service Providers include brokers, correspondent banks and custodians
- 2) It is recommended that Point to Point testing is made mandatory for all participants - see later pages for further details

## SUMMARISING RECOMMENDATIONS FOR A MARKET

The analysis of the planned testing against the recommendations from this document (see previous page), together with the link analysis will give a breakdown of the planned market testing. This enables a minimum set of tests to be agreed that covers all of the issues raised.

## RECOMMENDED TESTING REQUIREMENTS

The following pages contain detailed recommendations on levels of market testing. These can be used in two ways:-

1. Where no testing approach has yet been agreed, these recommendations can be used in the determination of the approach;
2. Where a testing approach is available, the templates can be used to compare this with the recommendations, to identify whether the testing is appropriate in all areas.

In the example below of a stock exchange, ticks represent the recommended level of testing, and the circles are an assessment of the planned testing.

Levels						
Testing Scope	None	Internal	Point to Point	Multilateral	Industry test with limited participation	Industry test
Provider Testing Environment	Testing in Production Environment	Dedicated Test Environment	Replica of Production Environment	Roll-over of Production Environment		
Integration/ Linkages	None	Some Integration	Limited End to End	End to End	Cross Product	
User Testing Requirement	Not allowed	Optional	Mandatory for major participants	Mandatory for all		
Year 2000 Test Cases	Limited	Limited, incl. leap year	Complete for 2000	Complete		
Business Test Cases	Limited	Major Categories	Complete			
Test Availability	None	Weekdays	Limited weekends	Many weekends	Weekdays & Weekends	
Dates						
	Point to Point Testing		Multilateral / Industry Testing			
	Completion Date:	Testing Duration:	Completion Date:	Testing Duration:		
Suggested	31 Mar 1999	3-6 months	30 Jun 1999	3-6 months		
Latest	30 Jun 1999	3-6 months	30 Sep 1999	3-6 months		
Actual	30 Apr 1999	6 months	31 Jul 1999	2 months		

Terms used in the table are defined on pages 12-15 of this document.

### Points to Note

- The comparison should form a basis for discussion, rather than being absolute. A difference in a particular category does not necessarily mean that the testing is excessive or inadequate in a particular case.
- Testing may not fall exactly into a single category, and judgement will be required. For example, more than one category could be circled as shown above.

## Payment Systems

Levels						
Testing Scope	None	Internal	Point to Point	Multilateral	Industry test with limited participation ✓	Industry test
Provider Testing Environment	Testing in Production Environment	Dedicated Test Environment	Replica of Production Environment ✓	Roll-over of Production Environment		
Integration/ Linkages	None	Some Integration	Limited End to End ✓	End to End	Cross Product	
User Testing Requirement	Not allowed	Optional	Mandatory for major participants ✓	Mandatory for all		
Year 2000 Test Cases	Limited	Limited, incl. leap year	Complete for 2000 ✓	Complete		
Business Test Cases	Limited	Major Categories ✓	Complete			
Test Availability	None	Weekdays	Limited weekends	Many weekends	Weekdays & Weekends ✓	
Dates						
	Point to Point Testing		Multilateral / Industry Testing			
	Completion Date:	Testing Duration:	Completion Date:	Testing Duration:		
Suggested	31 Mar 1999	6-12 months	30 Jun 1999	3-6 months		
Latest	30 Jun 1999	6-12 months	30 Sep 1999	3-6 months		
Actual						

Terms used in the table are defined on pages 12-15 of this document.

### Rationale

- Payment systems form a critical part of the financial services infrastructure.
- Point to point testing for all participants should be available.
- The test environment should be an appropriate replica of the live environment.
- Some industry testing is required, however it may not be practical to undertake full industry testing given the number of participants.
- Integration with other systems will be important. Some markets are already considering tests between payment systems in different countries.

### Notes

- Special consideration should be given to international linkages

## Exchanges (including Futures, Commodity and Stock Exchanges)

Levels						
Testing Scope	None	Internal	Point to Point	Multilateral	Industry test with limited participation	Industry test
Provider Testing Environment	Testing in Production Environment	Dedicated Test Environment	Replica of Production Environment	Roll-over of Production Environment		
Integration/ Linkages	None	Some Integration	Limited End to End	End to End	Cross Product	
User Testing Requirement	Not allowed	Optional	Mandatory for major participants	Mandatory for all		
Year 2000 Test Cases	Limited	Limited, incl. leap year	Complete for 2000	Complete		
Business Test Cases	Limited	Major Categories	Complete			
Test Availability	None	Weekdays	Limited weekends	Many weekends	Weekdays & Weekends	
Dates						
	Point to Point Testing		Multilateral / Industry Testing			
	Completion Date:	Testing Duration:	Completion Date:	Testing Duration:		
Suggested	31 Mar 1999	3-6 months	30 Jun 1999	3-6 months		
Latest	30 Jun 1999	3-6 months	30 Sep 1999	3-6 months		
Actual						

Terms used in the table are defined on pages 12-15 of this document.

### Rationale

- Point to point testing for all participants should be available.
- Some industry testing is required in order to ensure that the entire environment is adequately tested. It will probably not be practical to undertake full industry testing given the number of participants.
- The test environment should be an appropriate replica of the live environment.
- Integration testing with other systems, particularly related market data providers, clearing and settlement systems should be undertaken where possible

### Notes

- Testing with other third party trading systems and settlement bureaux should also be considered
- Where standard packages are used by a number of users to access an exchange, it should not be necessary for all to repeat the same tests.

## Financial Service Providers

(including brokers, correspondent banks and custodians)

Levels						
Testing Scope	None	Internal	Point to Point ✓	Multilateral	Industry test with limited participation	Industry test
Provider Testing Environment	Testing in Production Environment	Dedicated Test Environment ✓	Replica of Production Environment	Roll-over of Production Environment		
Integration/ Linkages	None	Some Integration ✓	Limited End to End	End to End	Cross Product	
User Testing Requirement	Not allowed	Optional ✓	Mandatory for major participants	Mandatory for all		
Year 2000 Test Cases	Limited	Limited w/ incl. leap year ✓	Complete for 2000	Complete		
Business Test Cases	Limited	Major Categories ✓	Complete			
Test Availability	None	Weekdays	Limited weekends ✓	Many weekends	Weekdays & Weekends	
Dates						
	Point to Point Testing		Multilateral / Industry Testing			
	Completion Date:	Testing Duration:	Completion Date:	Testing Duration:		
Suggested	30 Jun 1999	6 months	N/A	N/A		
Latest	30 Sep 1999	6 months	N/A	N/A		
Actual						

Terms used in the table are defined on pages 12-15 of this document.

### Rationale

- Point to point testing should be optional. Mandatory testing is not encouraged, since this may place an excessive burden of testing on counterparts.

### Notes

## Depositories, Clearing and Netting Systems

Levels						
Testing Scope	None	Internal	Point to Point	Multilateral ✓	Industry test with limited participation	Industry test
Provider Testing Environment	Testing in Production Environment	Dedicated Test Environment	Replica of Production Environment ✓	Roll-over of Production Environment		
Integration/ Linkages	None	Some Integration	Limited End to End ✓	End to End	Cross Product	
User Testing Requirement	Not allowed	Optional	Mandatory for major participants ✓	Mandatory for all		
Year 2000 Test Cases	Limited	Limited, incl. leap year	Complete for 2000 ✓	Complete		
Business Test Cases	Limited	Major Categories ✓	Complete			
Test Availability	None	Weekdays	Limited weekends	Many weekends	Weekdays & Weekends ✓	
Dates						
	Point to Point Testing		Multilateral / Industry Testing			
	Completion Date:	Testing Duration:	Completion Date:	Testing Duration:		
Suggested	31 Mar 1999	6 months	30 Jun 1999	6 months		
Latest	30 Jun 1999	6 months	30 Sep 1999	6 months		
Actual						

Terms used in the table are defined on pages 12-15 of this document.

### Rationale

- Point to point testing for all participants should be available.
- Some industry testing is required, however it will probably not be practical to undertake full industry testing given the number of participants.
- Integration with other systems, particularly related exchanges should be undertaken where appropriate.

### Notes

- In practice, test availability will depend on the test environment that can be made available.



## TESTING CATEGORIES

### Testing Scope

The following categories are used in this document to describe the various levels of co-operative testing, serving as broad categories. Institutions may undertake tests that fall between one or more categories.

None	-
Internal test	an internal test within a provider organisation, including with other provider organisations where a link exists, as appropriate
Point to Point	a test between user organisation A and provider organisation B
Multilateral	a test between organisation A and organisation C (or more) via a market infrastructure provider B
Industry test with limited participation	a small defined group test, with the users selected to represent a cross-section of the industry
Industry test	a group test of any size between the limited group and 100%

It may be possible to undertake point to point testing using a compliant application running on non-compliant hardware and software, allowing users to test their connectivity early without necessarily testing all of the functionality.

Given adequate internal test plans, it may be possible for a provider to return remediated applications into production prior to a wider test.

### Testing Hierarchy

It is important when planning or assessing market infrastructure test plans that the reason(s) for undertaking a particular test are clear. The categories used form a hierarchy so that for example a pre-requisite to undertaking an Industry test would normally be the successful completion of some internal and point to point testing.

Particular attention is therefore likely to be paid to organisations intending to undertake wider testing without first successfully completing tests within their own infrastructure.

Reason for testing	Test(s)
Is the system Year 2000 Compliant?	Internal test
Does the compliant system run correctly on compliant hardware, operating system and other system software?	Internal test
Do the users compliant systems correctly interface to the compliant system?	Point to Point test
Is the system compliant when interfacing with users?	Multilateral test Industry test with limited participation Industry test
Is the system compliant when integrated with other related systems?	End to End testing Cross Product testing

Wider testing may bring additional benefits by promoting awareness within the local market and also by increasing confidence in the market's Year 2000 preparations.



## Market Data Providers

Levels						
Testing Scope	None	Internal	Point to Point ✓	Multilateral	Industry test with limited participation	Industry test
Provider Testing Environment	Testing in Production Environment	Dedicated Test Environment ✓	Replica of Production Environment	Roll-over of Production Environment		
Integration Linkages	None	Some Integration	Limited End to End ✓	End to End	Cross Product	
User Testing Requirement	Not allowed	Optional ✓	Mandatory for major participants	Mandatory for all		
Year 2000 Test Cases	Limited	Limited, incl. leap year ✓	Complete for 2000	Complete		
Business Test Cases	Limited	Major Categories ✓	Complete			
Test Availability	None	Weekdays	Limited weekends	Many weekends	Weekdays & Weekends ✓	
Dates						
	Point to Point Testing		Multilateral / Industry Testing			
	Completion Date:	Testing Duration:	Completion Date:	Testing Duration:		
Suggested	30 Jun 1999	9-12 months	N/A	N/A		
Latest	30 Sep 1999	9-12 months	N/A	N/A		
Actual						

Terms used in the table are defined on pages 12-15 of this document.

### Rationale

- Point to Point testing should be optional. Mandatory testing is not encouraged, since this may place an excessive burden of testing on counterparts.

### Notes

- Testing requirements will vary according to the criticality of the market data provider - these recommendations are for the major providers within any market.

## Provider Testing Environment

The following categories are used in this document to classify the provision of testing environments by a market infrastructure provider..

Testing in Production Environment	Testing takes place in parallel with live running on the production environment, possibly separated by partitioning
Dedicated Test Environment	A separate test environment is available, which does not exactly match the production environment. Year 2000-ready components should be used where possible
Replica of Production Environment	A separate test environment is set up to match the expected future configuration of the production environment i.e. 2000-ready, although not necessarily with the same capacity
Roll-over of production Environment	The production systems are rolled forward (usually at a weekend) and testing is completed before the systems are reset to the current date

## Integration/Linkages

The following categories are used in this document to classify how integrated the testing of a market infrastructure component is with other linked or related systems.

None	Testing is done only on a standalone basis, with no integration to related systems
Some Integration	A number of Point to Point tests are used to demonstrate that linkages will operate correctly, preferably over a representative transaction cycle
Limited End to End	Integrated systems are tested together using a small number of test cases or not simultaneously, over a representative transaction cycle
End to End	Testing between the initiation of a transaction and settlement, including securities and funds, simultaneously within an industry group. This should test that a representative sample of transactions can be correctly priced, traded, settled, reported and accounted for, over a representative transaction cycle
Cross Product	End to End Testing between industry groups (e.g. Fixed Income, Equities, Derivatives) within a particular market or between different geographical locations, over a representative transaction cycle

Note that all of the above categories may include some limited testing between product groups (e.g. Point to Point).

## User Testing Requirements

The following categories are used in this document to classify what requirement is made of the users to participate in external testing.

Not allowed	No provision is made for testing by all users
Optional	Testing is at the discretion of the individual users
Mandatory for major participants	A group of significant participants (defined for that particular market infrastructure component) are required to complete a defined set of tests, other users may be able to choose to test
Mandatory for all	All participants must undertake a defined set of tests on the system, within a given timeframe. Those who do not complete this will not be allowed to use the system, or may face other sanctions

Note that where testing is not mandatory for all participants, it is implied that some participants may wish to rely on the test results of others.

In any event, some filtering of input data is assumed to be required so that any participants submitting erroneous data will not crash the entire system whether they have tested or not.

## Year 2000 Test Cases

The following categories are used in this document to describe broad levels of the completeness of test cases that can be used in Year 2000 testing.

Note that these define testing by market infrastructure providers with market participants, not internal testing which is generally expected to be more thorough.

Limited	1999/2000 rollover	e.g. 4/1/2000 only
Limited, including leap year	1999/2000 rollover Leap year	e.g. 4/1/2000, 29/2/2000
Complete for 2000	1999/2000 rollover Leap year 2000/2001 rollover	e.g. 31/12/1999, 4/1/2000, 29/2/2000, 1/3/2000; 31/12/2000
Complete	Critical system dates 1999/2000 rollover Leap year 2000/2001 rollover Future dates *Industry specific dates	e.g. 9/9/1999 31/12/1999, 4/1/2000; 29/2/2000, 1/3/2000; 29/12/2000, 1/1/2001, 2/1/2001; 29/2/2004 other industry specific dates

## Business Test Cases

The following categories are used in this document to describe broad levels of the completeness of business test cases that can be used in Year 2000 testing.

Note that these define testing by market infrastructure providers with market participants, not internal testing which is generally expected to be more thorough.

Limited	Standard transaction types only
Major Categories	All regularly used transaction types, including amends and cancels where appropriate
Complete	Every conceivable combination

## Test Availability

The following categories are used in this document to classify when external testing facilities will be available.

None	No testing is planned
Weekdays	Testing facilities will be available during normal office hours - this implies that dedicated test facilities are available
Limited weekends	Testing facilities will be available over a small number of weekends (less than 10)
Many weekends	Testing facilities will be available over a larger number of weekends (more than 10)
Weekdays & Weekends	Testing facilities will be available during normal working hours and at weekends, to provide maximum flexibility for those users with and without dedicated test environments