



ASX ComNews™ Manual

Real-time company announcements, direct from the source



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Introduction

ASX Market Information is a financial information service providing, among other things, daily market information from the Exchange's Trading System (ASXTrade) and Market Announcements Processor (MAP).

The ComNews service provides access to each market announcement lodged with the ASX Market Announcements Office (MAO) as soon as possible after it has been released to the market on an ASX Trading Day. Listed entities can currently lodge their announcements by facsimile transmission or by eLodgement via the ASX Online website. The Listing Rules make electronic lodgement of announcements mandatory for all issuers admitted to the Official List from 1 July 2003. Documents processed by MAO are then approved for release to the market. On release by MAO, the announcement is made available to subscribers via ComNews as soon as is practicable.

ComNews Overview

The ComNews service provides access to all market announcements received or issued by ASX in relation to issuers admitted to the Official List of ASX.

The ComNews service includes Header Text files and PDF files for all market announcements. These files are available in a single directory for all market announcements released on a Trading Day.

Mandatory eLodgements via ASXOnline were required from 1st July 2003 and the vast majority of market announcements are native PDF documents. Subscribers receive eLodged announcements in native PDF format and announcements that have been faxed to or scanned by ASX are converted to an image based PDF document.

ASX has developed an FTP Java based client application to facilitate the automation of downloading files from ComNews. This application tool is available with the service upon request. Further details are explained in [FTP Java Client](#).

ComNews Availability and Access

Access to ComNews is through the FTP Server, which can be accessed via a managed TCP/IP routed network, such as that offered by Cable & Wireless Optus (e-Finity VPN) or a dedicated line via Telstra or Optus. Each service requires the installation of a telecommunications link (though this is included in the Optus e-Finity solution) eg: Optus – Datalink, Telstra – DDS or ISDN Onramp. This form of telecommunications link is available in 64kbs increments. Connection to the FTP Server can be in 64kbs increments up to a maximum of 1920kbs. Experience has suggested that a 128kbs line is a minimum starting point to deliver reasonably timely access to the service. Depending on your requirements, a higher capacity line may be desirable.

Market announcement content on the ComNews service is updated between the hours of 08:30 AEST to 20:30 AEST [with the exception of those market announcements made by ASX/NZX (New Zealand Stock Exchange) dual listed entities which may be released any time after 7:30 am]. The FTP Server is available to subscribers from 01:00 hours AEST to 23:00 hours AEST Monday to Friday. Subscribers will be disconnected at 23:45 hours AEST. During heavy reporting periods, such as end of quarter, the FTP Server may also be available on Saturdays and Sundays from 01:00 hours AEST to 23:00 hours AEST. Notification of Saturday and Sunday access is usually given prior to its availability.

The FTP Server will retain market announcements for rolling periods of 7 Trading Days. These files will be located in discrete sub-directories and will cover the current Trading Day and the previous 6 Trading Days. Data will be 'rolled over' during a period between 23:00 hours AEST and 01:00 hours AEST.

Details for logging onto ComNews are explained in [FTP Server Connection Procedure](#).

Requests for Additional Copies of Released Announcements

Copies of previously released announcements which are no longer available on ComNews may be able to be made available on the FTP Server on request (see [Contact Details](#)).

Previously released files that have been purged from the sub-directory can be restored for up to 10 Trading Days from the date of their purging from the sub-directory. The task of retrieving announcements after the 10 Trading Day period from purging is more complex.

Restoring previously released files is an additional service and is subject to the payment of a fee.

It is unlikely that announcements, which are more than 12 months old, will be able to be restored to the FTP Server.

Each request for the retrieval of an announcement will need to include the following details:

Announcement Number	e.g.	2A1111111
ASX Code	e.g.	BHP
Announcement Type	e.g.	030002
Date of Announcement	e.g.	20030101
Time of Announcement	e.g.	102030

Requested files will, if available, be placed on the FTP Server for collection as outlined in [Requested Files](#). Copies will be made available on the FTP Server as soon as is practicable.

FTP Server Connection Procedure

This section outlines details required to connect to the FTP Server.

Logging on for ComNews

Logging on for ComNews can be made via standard File Transfer Protocol (as specified in internet RFC959). Anonymous FTP will not be available.

Before the FTP server can be accessed, a username and password will be issued to subscribers by ASX. The password will be 'permanent' as FTP does not permit password changing. Should a user require their password to be changed, a request can be made to Market Access Support (see [Contact Details](#)).

Usernames and passwords must be entered in lower case and be a minimum of 4 and a maximum of 8 characters.

An additional connection to an alternate FTP server is available at an added cost.

Communications Protocols

It is necessary that the subscriber provide their own equipment at their site in order to connect to the FTP server and access company announcement information. The equipment required can vary depending on the sophistication and requirements of the subscriber.

ASX's preferred carrier service for interconnecting ASX and the subscriber site is Optus e-Finity Virtual Private Network (VPN). Alternatively subscribers may choose a dedicated point-to-point line via either Optus or Telstra.

An average page size is 50k bytes. Some announcements pages may be substantially greater.

Subject to complying with the above specifications, the design of the particular communications system configuration to be used by a subscriber to access the FTP server is a matter for their choice. It may be advisable for subscribers to consider computer security issues when designing their system.

ComNews is delivered over an IP (Internet Protocol) routed network using FTP (File Transfer Protocol) and TCP/IP (Transfer Control Protocol / Internet Protocol).

File Transfer Protocol (FTP)

The communications protocols used are specified in documents known as "Requests for Comment" or merely "RFCs".

The equipment selected by a subscriber to access the FTP server must comply with the following protocols as described in the corresponding RFC for that protocol:

Protocol	RFC
Point to Point Protocol (PPP)	1661
Internet Protocol (IP)	791
Transport Control Protocol (TCP)	793
File Transfer Protocol (FTP)	959

Transfer Control Protocol / Internet Protocol (TCP/IP)

A ComNews subscriber should be aware of what facilities are available as well as the resources required to obtain information in a timely and cost effective manner.

A connection to the FTP server can be made from any device that runs the TCP/IP protocol via one of two means.

- Optus supplies the necessary infrastructure to access the eFinity VPN. Optus have a range of options available depending on the level of redundancy and services required; more information on Optus e-Finity's services and options is available by contacting Optus directly. All told, in a typical installation the infrastructure will take up about half of a cabinet shelf and about 5 RU's.
- Alternatively, customers can connect to ASX via a dedicated line, utilising either an On Ramp 2 service or a Point-to-Point data link of 128kb or higher; a Nortel router will be supplied by ASX and charged separately.

With the introduction of a TCP/IP network, security becomes a concern. The ASX server side has been placed behind firewalls with locked down security. The security at a client's side is up to each individual client. Although not mandatory, it is highly recommended that all clients have a firewall or other security model in place, this is particularly important should you connect via the VPN Network.

When the subscriber has decided to receive ComNews, an application must be made to Trading and Market Information Support who will place the request through the appropriate channels.

FTP Java Client

An FTP Java Client has been developed and can be used by subscribers to connect to and retrieve files from ComNews on a fully automated basis. The Java Client is available at no cost and can be emailed directly to the subscriber upon request. This software has been developed by ASX for its own internal purpose and is not supported by ASX.

Subscribers will have to populate the following on their own system:

- Username and Password
- IP Address of the FTP server
- Destination file location (where the files will go)

Directory Structures

Upon successfully logging on, a subscriber will gain access to a directory allocated to that subscriber. Under that directory will be seven sub-directories, one for the current Trading Day and one each for the preceding six Trading Days.

Current Announcements

Each of the seven sub-directories will be identified by a date and will contain market announcements released on that date by the CAO. The sub-directory will also contain a Header Text file for each announcement.

Requested Files

If a special request is made for past announcements, the files will be placed into the sub-directory for the current Trading Day. These files will be removed along with all the other files from that day's sub-directory in seven days' time.

Requested announcements will bear their original record identifiers, such as the Header Text file.

Subscribers will need to institute suitable procedures to ensure that requested files for prior Trading Days are not dealt with (such as making the text available to the market) as if it were a market announcement released by the MAO for the first time on that day.

File Structures

This section outlines the file structures of the existing types of market announcement files available on ComNews.

The files will be named from 00000001 to 99999999.

For example:

Day one the files may be 00000001 to 00001111.
Day two the files would be 00001112 to 00002250 etc.

Announcement Files

The announcement files are supplied in PDF format.

Header Text Files

Header Text files are supplied in ASCII text format.

Each Header Text file contains the following fields in the order shown:

Field Name	Field Description
Npages	The number of pages in the announcement
lfnds	Not used (Default Value = "empty")
lfnid	Not used (Default Value = "empty")
DataType	Not used (Default Value = Zero Filled)
RecType	Type of Record Received (Valid Values: "F" for Faxed, "S" for Scanned, "E" for E-Lodged)
RecDate	Date announcement received by MAO
RecTime	Time announcement received by MAO
RepType0	Report classification 0
RepType1	Report classification 1
RepType2	Report classification 2
RepType3	Report classification 3
RepType4	Report classification 4
RepType5	Report classification 5
RepType6	Report classification 6
RepType7	Report classification 7
RepType8	Report classification 8
RepType9	Report classification 9
RepType10*	Report classification 10
RepType11*	Report classification 11

Field Name	Field Description
RepType12*	Report classification 12
RepType13*	Report classification 13
RepType14*	Report classification 14
RepType15*	Report classification 15
RepType16*	Report classification 16
RepType17*	Report classification 17
RepType18*	Report classification 18
RepType19*	Report classification 19
RelDate	Date announcement released to FTP Server
RelTime	Time announcement released to FTP Server
Wavifnds	Not used
Wavifnid	Not used
TotEntity	Total number of listed entities
Annum	The announcement number for listed entity.
ASXCode	The ASX code for listed entity number.
Exchange	The home exchange for listed entity number.
Sensitiv	The sensitivity for listed entity number.
HeadTxt	The header text for listed entity number.

* Effective 06 August 2018.

Each field will be on a line by itself terminating in a line feed character (ASCII 10).

There may be up to 20 report classification fields. Where less than 20 classifications apply, then a line feed (ASCII 10) only will be inserted on the line to pad the file to 20 lines for report classifications.

Filename Conventions

There is a one to one correlation between PDF and TXT files.

For example: 00000001.PDF will reference 00000001.TXT.

The file naming convention is the same for all files, except when a PDF has been faxed or scanned; the PDF file name will then be appended with an 'F' (faxed) or 'S' (scanned). This will allow for distinction between a 'native' PDF file (eLodged via ASXOnline) and 'image' PDF file (faxed or scanned) for ComNews.

For example: 00000001F.pdf (faxed)
 00000001S.pdf (scanned)
 00000001.pdf ('native' pdf)
 00000001.txt (header text)

Header File Field Definitions

The following is a listing of all the Header File field definitions and provides details of the number of bytes, the format, description and valid values.

Annum							
Bytes	9						
Format	Alphanumeric						
Description	Contains the unique ASX identification for the announcement pertaining to listed entity.						
Valid Values	<p>An alphanumeric string of the format 9A9999999 e.g. 2A1234567 consisting of the following:</p> <table border="0"> <tr> <td>First Character</td> <td>indicates the home branch of the quoted security (for valid values, refer to the Exchange data field).</td> </tr> <tr> <td>Second Character</td> <td>Alphabet "A" representing Announcement</td> </tr> <tr> <td>3rd to 9th Character</td> <td>Announcement Number</td> </tr> </table>	First Character	indicates the home branch of the quoted security (for valid values, refer to the Exchange data field).	Second Character	Alphabet "A" representing Announcement	3 rd to 9 th Character	Announcement Number
First Character	indicates the home branch of the quoted security (for valid values, refer to the Exchange data field).						
Second Character	Alphabet "A" representing Announcement						
3 rd to 9 th Character	Announcement Number						

ASXCode	
Bytes	3
Format	Alphanumeric
Description	The ASX code for the listed entity
Valid Values	ASX code for listed entity. A listing of Entity names and associated codes can be obtained by arrangement between the subscriber and the ASX Market Information Department (see contact details).

DataType	
Bytes	N/A
Format	N/A
Description	N/A
Valid Values	Not currently used

Exchange	
Bytes	1
Format	Numeric
Description	A code to categorise the home exchange of the listed entity.
Valid Values	First Character: 0 = Market Information Department Announcement 2 = Sydney 3 = Melbourne 4 = Brisbane 5 = Adelaide 6 = Perth 7 = Hobart

HeadTxt	
Bytes	60
Format	Alphanumeric
Description	A text string giving a brief description of the content of the announcement with respect to the listed entity.
Valid Values	Text giving a brief description of the announcement

Ifnid	
Bytes	N/A
Format	N/A
Description	N/A
Valid Values	Not currently used

Ifnds	
Bytes	N/A
Format	N/A
Description	N/A
Valid Values	Not currently used

Npages	
Bytes	Variable
Format	Numeric
Description	The number of pages contained in the market announcement.
Valid Values	N/A

RecDate	
Bytes	10
Format	Numeric YYYYMMDD where YYYY = Century, Year MM = Month DD = Day
Description	The date that the market announcement was received by CAO.
Valid Values	N/A

RecTime	
Bytes	8
Format	Time HH:MM:SS where HH = Hours MM = Minutes SS = Seconds
Description	The time that the company announcement was received by CAO.
Valid Values	N/A

RecType	
Bytes	N/A
Format	N/A
Description	Type of Record Received
Valid Values	"F" for Faxed, "S" for Scanned, "E" for E-Lodged

RelDate	
Bytes	10
Format	Numeric YYYYMMDD where YYYY = Century, Year MM = Month DD = Day
Description	The date that the market announcement was released to the FTP Server.
Valid Values	N/A

RelTime	
Bytes	8
Format	Time HH:MM:SS where HH = Hours MM = Minutes SS = Seconds
Description	The time that the market announcement was released to the FTP Server.
Valid Values	N/A

RepType (0-19)	
Bytes	5
Format	Alphanumeric
Description	A code to categorise market announcements. Any single market announcement may belong to multiple code categories.
Valid Values	Please refer to the RepType Codes Table

Sensitiv	
Bytes	1
Format	Alphanumeric
Description	Indicates whether the associated market announcement contains information which the Market Announcements Office considers may influence trading in the issuing company.
Valid Values	Y = Considered market sensitive N = Not considered market sensitive

TotEntity	
Bytes	Variable
Format	Numeric
Description	The total number of listed entities, including the primary listed entity, associated with the announcement.
Valid Values	N/A

Wavifnds	
Bytes	N/A
Format	N/A
Description	N/A
Valid Values	Not currently used

Wavifnid	
Bytes	N/A
Format	N/A
Description	N/A
Valid Values	Not currently used

General Information

Compression and Decompression Routines

ASX offers the use of data compression when accessing the Gateway.

The compression routine will compress all occurrences of five or more consecutive characters of the same type.

The Gateway Message Code and the Sequence Number will not be compressed. This will allow the subscriber to check for valid sequencing without having to decompress data.

Compressed data will be stored in the format:

Compression Indicator	Compression Character	Compression Count
-----------------------	-----------------------	-------------------

The Compression Indicator = Hex 16 (CTRL V)

The Compression Character represents the character which has been compressed.

The Compression Count is a 2-byte numeric ASCII count of the number of times it has been repeated. The field allows for a maximum of 99 in any single compression.

If the compression character, itself, occurs in the data, it will be represented in compressed format. It is therefore possible to have a compression count of 1.

As an example, take a string of 10 letter A's:

“AAAAAAAAAA”

This would be represented in compressed format as:

HEX 16	A	10
--------	---	----

To aid subscribers in utilising the data compression facility, we have documented, in pseudo-code, the data compression routine used by ASX and a suggested decompression algorithm. This is a guide only, and needs to be converted into the computer programming language utilised by the Subscriber.

Compression

PROCEDURE COMPRESS (IN-BUFFER, IN-LENGTH, OUT-BUFFER, OUT-LENGTH)

BEGIN

```

IN      := 8
OUT     := 8
NEXT    := 8
COUNT := 0

```

```

IN-LENGTH = IN-LENGTH + 1 ;
! Skip GATEWAY Function Code and Sequence Number.
FOR COUNT := 0 TO 7 DO
    OUT-BUFFER [COUNT] := IN-BUFFER [COUNT] ;

```

```

WHILE NEXT < IN-LENGTH DO

```

BEGIN

```

COUNT := 0 ;
NEXT    := NEXT + 1 ;
! COUNT will equal number of compressed characters
WHILE (IN-BUFFER [IN] = IN-BUFFER [NEXT]) AND (NEXT < IN-LENGTH) AND
      (COUNT < 98) DO

```

BEGIN

```

COUNT := COUNT + 1
NEXT    := NEXT + 1
END;

```

```

IF COUNT > 3 THEN

```

```

BEGIN ! We have a compression

```

```

OUT-BUFFER [OUT]           := COMPRESSION-CHAR ;
OUT-BUFFER [OUT+1]         := IN-BUFFER [IN]
OUT-BUFFER [OUT+2 := OUT + 3] := COUNT ;
OUT                        := IN + 1 ;

```

```

END
UNTIL IN = NEXT ;

```

```

END

```

```

*
```

```

IN := NEXT ;

```

```

END;

```

```

*
```

```

OUT-LENGTH := OUT - 1

```

```

END;

```

Decompression

PROCEDURE DECOMPRESS (IN-BUFFER, IN-LENGTH, OUT-BUFFER, OUT-LENGTH)

BEGIN

```
Count :      = 0
I      :      = 0
IN     :      = 0
OUT    :      = 0
```

WHILE IN < IN-LENGTH DO

BEGIN

```
WHILE (IN-BUFFER [IN] <> COMPRESSION-CHAR) AND (IN < LENGTH)
```

```
DO
```

```
BEGIN ! More data from IN-BUFFER to OUT-BUFFER
```

```
OUT-BUFFER [OUT] := IN-BUFFER [IN]
```

```
OUT := OUT + 1 ;
```

```
IN := IN + 1 ;
```

```
END
```

*

```
IF IN-BUFFER [IN] = COMPRESSION-CHAR THEN
```

```
BEGIN
```

```
! Get number of compressed characters
```

```
COMPRESSION-COUNT = IN-BUFFER [ IN + 2] ;
```

*

```
FOR I := 1 TO COMPRESSION-COUNT DO
```

```
BEGIN
```

```
OUT-BUFFER [OUT] := IN-BUFFER [IN + 1] ;
```

```
! Compressed character
```

```
OUT := OUT + 1
```

```
END
```

*

```
IN := IN + 4
```

```
END ;
```

```
END
```

```
OUT-LENGTH := OUT ;
```

```
END
```

ISO 8208 Frame and Packet Control Parameters

Frame Control Parameters

ISO/CITT parameter description	Profile value
Timer T1 (milliseconds)	2000
Parameter T2 (milliseconds)	Null
Maximum number of bits in a Frame (N1) (bytes)	133
Maximum number of transmissions (N2) (count)	20
Maximum number of outstanding frames (K) (count)	7

Packet Control Parameters

ISO/CITT parameter description	Profile value
DTE Restart request time (T20) (seconds)	180
DTE Call request time (T21) (seconds)	200
DTE Reset request time (T22) (seconds)	180
DTE Clear Request time (T23) (seconds)	180
Packet Size (default) (bytes) (maximum)	128 4096
Restart Request Retransmission (R20) (count)	1
Reset Request Retransmission (R22) (count)	1
Clear request Retransmission (R23) (count)	1
Interrupt Response Time (T26) (seconds)	180
Window Size (default) (count) (maximum)	2 7

Big Endian

[From Swift's "Gulliver's Travels" via the famous paper "On Holy Wars and a Plea for Peace" by Danny Cohen, USC/ISI IEN 137, dated April 1, 1980] adj.

Describes a computer architecture in which, within a given multi-byte numeric representation, the most significant byte has the lowest address (the word is stored 'big-end-first'). Most processors, including the IBM 370 family, the PDP-10, the Motorola microprocessor families, and most of the various RISC designs current in mid-1993, are big-endian.

Data representation

Some computers are "big endian". This refers to the representation of objects such as integers within a word. A big endian machine stores them in the expected way: the high byte of an integer is stored in the leftmost byte, while the low byte of an integer is stored in the rightmost byte.

Eg: The decimal number 101 (one hundred and one) when converted into hexadecimal (base 16) would be represented by the value 67, i.e. $101 = 6 \times 16 + 7$.

If this value was "stored" using big-endian, the digits would be stored as shown below:

		6	7
3	2	1	0

A "little endian" machine stores them the other way.

7	6		
3	2	1	0

To allow machines that use different memory architectures to communicate information correctly, they must agree on the data representation to use. The accepted standard for BSD IP networking is big-endian.

DSS will use big-endian as its standard of representing binary/hexadecimal values. This implies that the first byte received on the communication link is the highest order byte of the value being represented.

Example: Transmitting the Logon Message to DP

Data to Transmit: 01AcctNamePassword

Length of Data: 18 (Decimal) = 12 (in Hexadecimal)

Actual Message to DP: <00><12>01AcctNamePassword

First two bytes contain the length in Hex followed by 18 bytes of ASCII data.

Computer systems, like VAX/VMS and Microsoft/NT, store numeric values in Little-Endian Byte Order. In order to transmit a numeric value from a VMS or a NT program to ASX's DP, the bytes need to be rearranged.

For programs that reference WinSock routines under Windows, it can call the **htons** function to convert a **u_short** from host to TCP/IP network byte order. The **ntohs** function can be called to convert a **u_short** from TCP/IP network byte order to host byte order.

The attached C program, T_ENDIAN.C, demonstrates how an unsigned short value can be stored into or reconstructed from a character array storing data in Big Endian Byte Order.

T_ENDIAN.C

T_ENDIAN produces the following output:

.....
Testing conversion of 3 (== 3)

Dumping bytes in short (Little Endian)

Byte 0 in Decimal: 3, in Hex: 03

Byte 1 in Decimal: 0, in Hex: 00

Dumping bytes in array (Big Endian)

Byte 0 in Decimal: 0, in Hex: 00

Byte 1 in Decimal: 3, in Hex: 03

Restored Value is 3

.....
Testing conversion of 258 (== 256 + 2)

Dumping bytes in short (Little Endian)

Byte 0 in Decimal: 2, in Hex: 02

Byte 1 in Decimal: 1, in Hex: 01

Dumping bytes in array (Big Endian)

Byte 0 in Decimal: 1, in Hex: 01

Byte 1 in Decimal: 2, in Hex: 02

Restored Value is 258

.....
Testing conversion of 51201 (== 200 * 256 + 1)

Dumping bytes in short (Little Endian)

Byte 0 in Decimal: 1, in Hex: 01

Byte 1 in Decimal: 200, in Hex: c8

Dumping bytes in array (Big Endian)

Byte 0 in Decimal: 200, in Hex: c8

Byte 1 in Decimal: 1, in Hex: 01

Restored Value is 51201
.....

Internet VPN Client Standard

Required Security Considerations

Systems reliant on the internet for transport are exposed to the threats associated with the internet including hacker and denial of service attacks, worms, etc.

To reduce these and other risks, clients are required to ensure that the ASX iVPN end point systems are configured to ensure;

- The system does not act as a 'router' allowing IP connectivity thru the ASX iVPN client to ASX networks or services;
- Non-essential 'listening' network ports or services exposed to the Internet or other external networks are disabled or restricted using a host based firewall;
- An effective security patching policy and processes are in place to prevent exploitation of vulnerable services;
- Anti-virus systems are used where possible to actively prevent virus or worm impacts

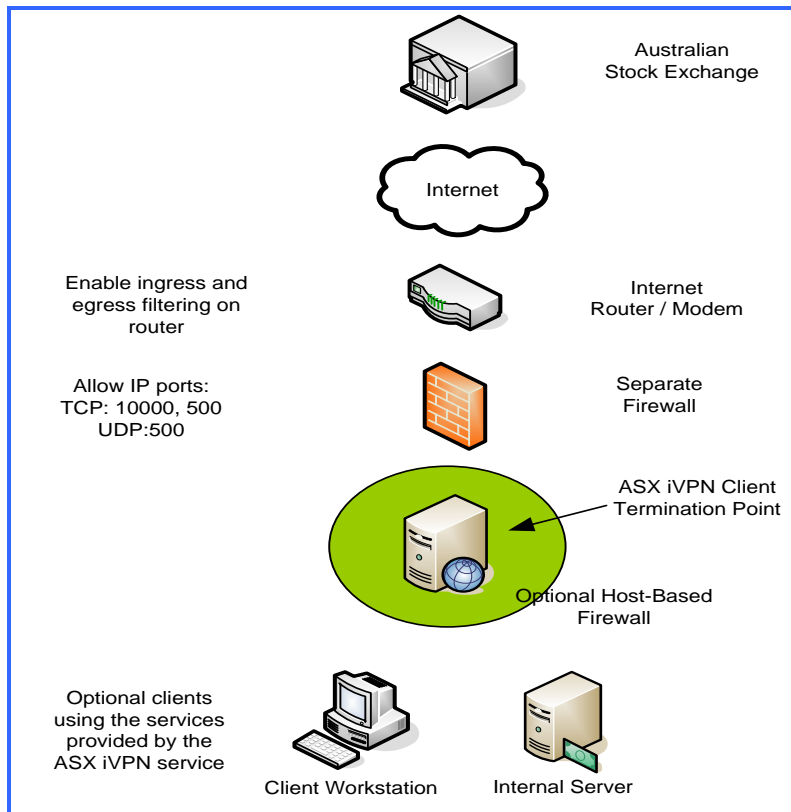
Supported Configurations

The examples below identify installation options for ASX iVPN clients and highlight additional controls for each option.

Protected Client

The preferred configuration for ASX iVPN clients is where the ASX iVPN end point is protected behind a firewall, isolating the system from the Internet and other external networks.

Additional controls required: None



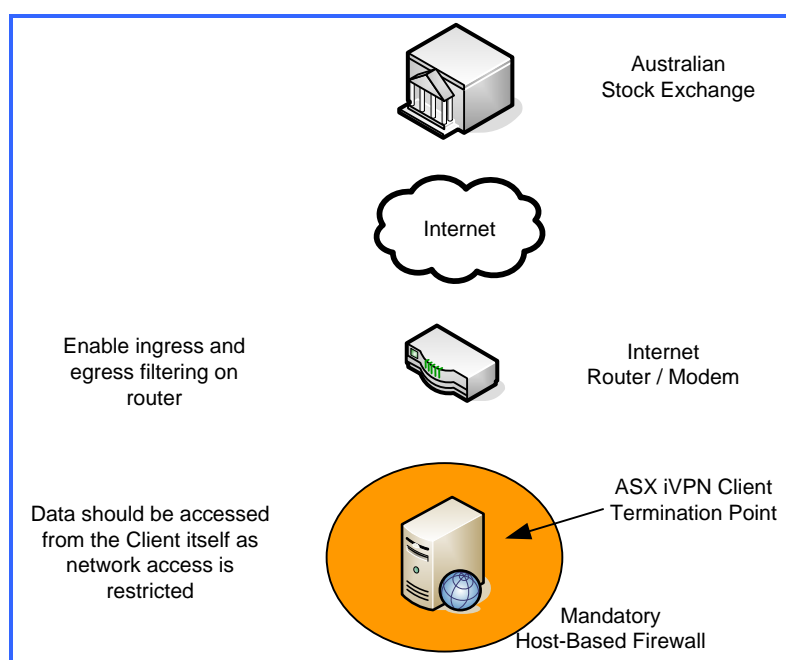
Exposed Client

Exposed clients are those that are not protected from external networks, including the internet, by a separate firewall. These clients are very high risk and additional controls must be put in place to prevent unauthorised access leading to loss of services or data theft.

If additional clients need to access data provided by an exposed ASX iVPN client system then data should first be transferred (e.g. pushed using FTP) to another system on a safe network or implement the Protected Client configuration discussed above.

Additional controls required:

- A host-based firewall preventing non-essential access to the system from the network is required;
- Strict controls must ensure that routing thru the ASX iVPN is not possible;
- The internet router (where a router is used e.g. ADSL router) must be configured to prevent unauthorised incoming traffic (ingress filtering);
- Where possible the internet router should also restrict unauthorised outgoing traffic also (egress filtering)



Note: ASX provides a basic host-based firewall for Windows clients. However, users of other operating systems must provide their own host-based firewall e.g. IP Tables on Linux systems.

Supported Software and Operating Systems

Supported Client Operating Systems

- Microsoft Windows – 2003/2000/XP and above
- Sun Solaris version 8.0 and above
- Linux – common kernels 2.4 or above
- Other operating systems may be used however these have not been tested and hence only limited support is available.

Supported VPN Client Software

- Limited support is available for the Cisco client software provided by ASX.
- Other client software can be used, however ASX cannot guarantee support for these clients.

RepType Codes Table

Each market announcement Header Text file has ten fields named *RepType0* ... *RepType9*, enabling announcements to be categorised by ASX for easier processing by subscribers.

The *Primary Report* code and *Sub Report Code* are concatenated to form the *RepType* code. A market announcement may be categorised in up to 10 different ways.

Primary Report Code	Sub Report Code	Description
01	000	Takeover Announcements/Scheme Announcements
	001	Intention to Make Takeover Bid
	002	Bidder's Statement – Off-market bid
	003	Target's Statement – Off-market bid
	004	Bidder's Statement – Market bid
	005	Target's Statement – Market bid
	006	Off-market bid offer document to bid class holders
	007	Directors' Statement re Takeover
	008	Variation of Takeover Bid
	009	Takeover – Other
	010	Supplementary Bidder's Statement
	011	Supplementary Target's Statement
	012	Scheme of Arrangement
	013	Indicative Non-Binding Proposal
	014	Withdrawal of Offer
	015	Takeover – Timer Applied
	016 – 020	Reserved For Future Use
02	000	SECURITY HOLDER DETAILS
	001	Becoming a substantial holder
	002	Change in substantial holding
	003	Ceasing to be a substantial holder
	004	Beneficial ownership – Part 6C.2
	005	Takeover update – Section 671B© Notice
	006	Security holder details – Other
	007	Section 205G Notice – Director's Interests
	008	Initial Director's Interest Notice
	009	Change of Director's Interest Notice
	010	Final Director's Interest Notice
	011 – 015	Reserved For Future Use
03	000	PERIODIC REPORTS

Primary Report Code	Sub Report Code	Description
	001	Annual Report
	002	Top 20 shareholders
	003	Preliminary Final Report
	004	Half Yearly Report
	005	Confirmation that Annual Report was sent to Security Holders
	006	Trust 6 month accounts
	007	Trust 12 month accounts
	008	Loan securities on issue
	009	Half Year Audit Review
	010	Half Year Directors' Statement
	011	Full Year Accounts
	012	Full Year Audit Review
	013	Full Year Directors' Statement
	014	Periodic Reports – Other
	015	Half Year Accounts
	016	Net Tangible Asset Backing
	017	Concise Financial Report
	018	Daily Fund Update
	019	Half Year Directors' Report
	020	Full Year Directors' Report
	021	Profit Guidance
	022	Debt Facility
	023	Credit Rating
	024	Corporate Governance
	025	Appendix 4G
	026	Company Presentation (covers presentation on business updates, projects, activities and others that a company will report as presentation)
	027 – 030	Reserved for Future Use
04	000	QUARTERLY ACTIVITIES REPORT
	001	First Quarter Activities Report
	002	Second Quarter Activities Report
	003	Third Quarter Activities Report
	004	Fourth Quarter Activities Report
	005	Quarterly Activities Report – Other
	006 – 010	Reserved For Future Use
05	000	QUARTERLY CASH FLOW REPORT
	001	First Quarter Cash Flow Report

Primary Report Code	Sub Report Code	Description
	002	Second Quarter Cash Flow Report
	003	Third Quarter Cash Flow Report
	004	Fourth Quarter Cash Flow Report
	005	Quarterly Cash Flow Report – Other
	006 – 010	Reserved For Future Use
06	000	ISSUED CAPITAL
	001	Renounceable Issue
	002	Bonus Issue/In-Specie Issue
	003	Placement
	004	Issues to the Public
	005	Capital Reconstruction
	006	New Issue Letter of Offer & Acc. Form
	007	Alteration to issued capital
	008	Non-Renounceable Issue
	009	Issued Capital – Other
	010	Disclosure Document
	011	On-Market Buy-Back
	012	Daily Share Buy-Back Notice
	013	Appendix 3B
	014	ASX BookBuild – Upcoming/Commenced
	015	ASX BookBuild – Change in Public Parameter
	016	ASX BookBuild – Close/Cancel
	017	Security Purchase Plan
	018	Cleansing Notice
	019	Off-Market Buy-Back
	020 – 036	Reserved For Future Use
07	000	ASSET ACQUISITION & DISPOSAL
	001	Asset Acquisition
	002	Asset Disposal
	003	Asset Acquisition & Disposal – Other
	004 – 009	Reserved For Future Use
08	000	NOTICE OF MEETING
	001	Notice of Annual General Meeting
	002	Notice of Extraordinary General Meeting
	003	Results of Meeting
	004	Proxy Form

Primary Report Code	Sub Report Code	Description
	005	Alteration to Notice of Meeting
	006	Notice of Meeting – Other
	007	Notice of General Meeting
	008 – 014	Reserved for future use
09	000	ASX ANNOUNCEMENT
	001	Suspension from Official Quotation
	002	Reinstatement to Official Quotation
	003	Removal from Official List
	004	ASX Query
	005	Notice Pending
	006	Change in Basis of Quotation
	007	Trading Halt
	008	Admission to Official List
	009	Commencement of Official Quotation
	010	ASX Announcement – Other
	011	MAP Cancellation
	012	MAP Correction
	013	End of Day
	014	Trading Halt Lifted
	015	ASX Circulars
	016 – 020	Reserved For Future Use
10	000	DISTRIBUTION ANNOUNCEMENT
	001	Dividend Record Date
	002	Dividend Pay Date
	003	Dividend Rate
	004	Dividend Alteration
	005	Dividend – Other
	006	Dividend Reinvestment Plan
	007	Interest Record Date
	008	Interest Pay Date
	009	Interest Rate
	010 – 015	Reserved For Future Use
11	000	PROGRESS REPORT
	001	Progress Report
	002	Progress Report – Other
	003 – 007	Reserved For Future Use

Primary Report Code	Sub Report Code	Description
12	000	COMPANY ADMINISTRATION
	001	Director Appointment/Resignation
	002	Details of Company Address
	003	Details of Registered office address
	004	Details of Share Registry address
	005	Trustee Appointment/Resignation
	006	Trust Manager Appointment/Resignation
	007	Company Secretary Appointment/Resignation
	008	Company Administration – Other
	009	Change of Balance Date
	010	Trust Deed
	011	Articles of Association
	012	Constitution
	013	Responsible Entity Appointment/Resignation
	014	Change of Company Name
	015	Administrator/Receiver – Appointed/Removed
	016	Waiver
	017 – 020	Reserved For Future Use
13	000	NOTICE OF CALL (Contributing Shares)
	001	Announcement of call
	002	Notice of call to shareholders
	003	Notice of Call – Other
	004 – 008	Reserved For Future Use
14	000	OTHER
	001	Other
	002	Internal
	003	Legal Proceedings
	004	Appendix 16A
	005	Year 2000 Advice
	006	Open Briefing
	011	Overseas Listing
	012	Standard and Poor's Announcement
	013	Trading Policy
	014	Web Cast
	015 – 020	Reserved For Future Use
	100	MAP Test

Primary Report Code	Sub Report Code	Description
15	000	CHAIRMAN'S ADDRESS
	001	Chairman's Address – Other
	002	Chairman's Address to Shareholders
	003 – 008	Reserved For Future Use
16	000	LETTER TO SHAREHOLDERS
	001	Letter to Shareholders – Other
	002	Letter to Shareholders
	003 – 008	Reserved For Future Use
17	000	ASX QUERY
	001	ASX Query – Other
	002	ASX Query
	003	Response to ASX Query
	004 – 009	Reserved For Future Use
18	000	STRUCTURED PRODUCTS
	001	Structured Products – Other
	002	Structured Products Issuer Report
	003	Structured Products Disclosure Document
	004	Structured Products Acceptance
	005	Structured Products Trust Deed
	006	Structured Products Distribution
	007	Structured Products Adjustment
	008	Structured Products Supplementary Disclosure Document
	009 – 020	Reserved For Future Use
19	000	COMMITMENTS TEST ENTITY QUARTERLY REPORTS
	001	Commitments Test Entity – First Quarter Report
	002	Commitments Test Entity – Second Quarter Report
	003	Commitments Test Entity – Third Quarter Report
	004	Commitments Test Entity – Fourth Quarter Report
	005	Commitments Test Entity Quarterly Reports – Other
	006 – 010	Reserved For Future Use
20	000	mFund
	001	mFund – Disclosure Document
	002	mFund - Fund Profile

Primary Report Code	Sub Report Code	Description
	003	mFund - Alteration to Issued Capital
	004	mFund - Daily Update
	005	mFund – Dividend Record Date
	006	mFund – Dividend Payment
	007	mFund – Dividend Rate
	008	mFund – Net Tangible Asset backing
	009	mFund – Other
	010 – 020	Reserved for future use
21	000	Reserved for future use
	001 – 010	Reserved for future use
22	000	Reserved for future use
	001 – 010	Reserved for future use
23	000	Reserved for future use
	001 – 010	Reserved for future use

Manual Updates Reference Table

Date	Version/ Bulletin	Page	Changes Made
14/02/12	Manual Version 2.6	31	Report Code 14013 description updated from "Reserved for Future Use" to "Trading Policy" as per ASX Market Information Bulletin 3310.
23/03/12	Manual Version 2.7	5 10, 14	<ul style="list-style-type: none"> - Market announcements made by ASX/NZX dual listed entities may be released any time after 7:30 am - To align with production file data field value display, description update to <ul style="list-style-type: none"> • Default values for lfnds & lfnid data fields to be "Empty" • Default value for Data Type data field to be zero "0" • RecType data field to be Type of Record Received (Valid Values: "F" for Faxed, "S" for Scanned, "E" for E-Lodged) - Other changes <p>"Company Announcement" references changed to "Market Announcement".</p>
27/12/12	Manual Version 2.8	28, 29, 30, 31, 32 29, 30 28, 29, 30, 31, 32	<p>ASX ComNews Market Announcement Report Type description change (Sub-Report Codes 03016, 07003, 09011, 09012, 10001, 14100, 18001, 19005) as per ASX Market Information Bulletin 1512.</p> <p>ASX ComNews Market Announcement Report Type addition and description change [Primary Report Code 10, Sub-Report Codes 06017 to 06036 (new), 10006 to 10009 (description change), 10011 to 10015 (new)] as per ASX Market Information Bulletin 3212.</p> <p>ASX ComNews Market Announcement Report Type description change (Primary Report Code 01, Sub-Report Codes 01012, 02005, 03021 & 03022, 06002, 06011, 06014 to 06018, 09015, 12014 & 12015, 14003) as per ASX Market Information Bulletin 4212.</p>
23/10/14	Manual Version 2.9	10 – 11 27 – 29; 32 – 33	<p>ASX ComNews Market Announcement Report Type additions and description changes as per ASX Notice 34/14.</p> <p>Change in the number of Report Type Codes able to be disseminated for a single Market Announcement – ASX Notice 45/14.</p> <p>ASX Notices 14/18 and 20/18</p>
16/07/18	Notice 35/18		16 July 2018 effective date confirmed.
02/05/16	Market Notice 14/16	28	ASX ComNews Market Announcement Report Type description change Sub-Report Code 03205 per ASX Market Information Notice 14/16.

27/02/17	Notice 16/17	12	Change in Announcement Number data field size from 8 bytes to 9 bytes.
25/10/17	Updated for 3 new Report Type codes announced in MAO Notice: https://www.asxonline.com/public/notices/2017/oct/1154.17.10.html	28, 31	Allocated 'reserved for future use' sub report codes to the 3 new codes.
02/08/18	Notice 37/18	27	Sub-Report Code 01015 description change from "Reserved for Future Use" to Takeover – Timer Applied.

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