

FRC Hub Conditions

1 REMCo Responsibilities as Hub Service Provider

Performance

- 1.1 REMCo will route 99.99% of all messages through the FRC Hub within 10 minutes of receipt except:
 - 1.1.1 where the FRC HUB is unavailable due to a scheduled outage with a target notification time of at least two Business Days; or
 - 1.1.2 under a fail over process; or
 - 1.1.3 where the delayed messages are in excess of the peak performance requirement of 8 messages per second.
- 1.2 REMCo will support an average throughput of 4 approx 5KB messages per second through the FRC Hub
- 1.3 REMCo will support a peak throughput of 8 approx 5KB messages per second through the FRC Hub
- 1.4 REMCo will deploy a reliable messaging system that will identify the status of all transmitted messages at the FRC Hub gateway.

Availability / Redundancy

- 1.5 REMCo will provide an FRC Hub message delivery service that is available 24 hours per day by 7 days per week by 52 weeks per year with a minimum of 99.9% availability less scheduled downtime.
- 1.6 REMCo, REMCo Members will provide for their gateway services connected to the FRC Hub to be available 24 hours per day by 7 days per week by 52 weeks per year with a minimum availability as set out below, less scheduled downtime. Table 1 applies to REMCo, REMCo Members with a customer base of greater than 10,000 MIRNs, Table 2 applies to REMCo Members with a customer base of less than 10,000 MIRNs.

Table 1

Period	Uptime %
Business Hours Mon -Fri (excluding National Public Holidays)	98.5
Non-Business Hours Mon - Fri (excluding National Public Holidays)	98.0

Table 2

Period	Uptime %
Business Hours Mon -Fri (excluding National Public Holidays)	98
Non-Business Hours Mon - Fri (excluding National Public Holidays)	95.0
Sat, Sun, (starting 7:00pm Frid and finishing 7:00am Mon) National Public Holidays	95

Business Hours are defined as 7am to 7pm Monday to Friday

Non-Business Hours are defined as 7pm Friday to 7am Monday

National Public Holidays are defined as gazetted in the Victorian Gazette (Note: this does not include Melbourne Metropolitan holidays such as Melbourne Cup Day)

- 1.7 REMCo will synchronise a disaster recovery (DR) FRC Hub environment with the production environment and make available on a 24 hours per day by 7 days per week by 52 weeks per year less scheduled downtime of one hour per month.
- 1.8 REMCo will, in the event of a disaster, invoke fail-over to the DR FRC Hub, such fail-over will be capable of occurring without requiring dynamic configuration changes by subscribers to their Hub interfaces.
- 1.9 In the event of a fail-over to the DR FRC Hub (which will have identical configuration and capacity to the production Hub) REMCo will restore the message delivery service within 4 hours of the fail-over.
- 1.10 REMCo will ensure that Production and DR Hubs will have effective uninterrupted power supplies and generator facilities.
- 1.11 REMCo will successfully test production fail-over to and fail-back from DR at least every six months and report results to REMCo Members within one calendar month.

Auditing Logging and Archiving

- 1.12 REMCo will maintain detailed logs of all messages transmitted through the FRC Hub. These logs will include sufficient information to assist in resolving disputes that may arise regarding the transmission of a message and its payload.
- 1.13 REMCo will use XML digital signature technology to provide complete non-repudiation of gateway-to-gateway delivery and receipt, of message and payload data.

- 1.14 REMCo will timestamp all messages on transmission by the FRC Hub providing complete data on transmission latencies directly to subscribers.
- 1.15 REMCo will ensure that the FRC Hub logging facilities will provide time information on receipt and sending times, and be capable of generating complete and accurate data about FRC Hub transit times.
- 1.16 REMCo will not store any data that causes a breach of prevailing Victorian legislative or regulatory instruments in respect of Privacy and confidentiality
- 1.17 REMCo will not open the payload of a message in the course of transmitting that message via the FRC Hub.
- 1.18 REMCo will store logged data, transmitted through the FRC Hub online for one week.
- 1.19 REMCo will provide a message archiving facility for all messages transmitted through the Hub.
- 1.20 REMCo will archive logged data after one week. Reasonable costs for recovery of archived data will be paid by the requesting party. Hub Operator will only provide access to archived data to which the requesting party is entitled.

Security

- 1.21 REMCo and REMCo members will, with the exception of error messages, sign all messages transmitted via the FRC Hub with X509v3 compliant digital certificates.
- 1.22 REMCo will verify messages signed with X509v3 compliant digital certificates.
- 1.23 REMCo will reject messages and acknowledgments transmitted to the FRC Hub with an unsigned payload.
- 1.24 REMCo will use the FRC Hub to hold a certificate containing the public key of REMCo Member.
- 1.25 REMCo will reject any message transmitted to the FRC Hub with an invalid digital signature, or that has an incorrectly populated signature block.
- 1.26 REMCo will verify each signed message transmitted to the FRC Hub, using the public key of REMCo Member and re-sign the message with its own private key before forwarding the message to the recipient.
- 1.27 Each REMCo Member must hold the FRC Hub's public key available in the form of an X509v3 certificate.
- 1.28 REMCo and REMCo Members will ensure that all messages routed through the FRC Hub carry transport layer encryption using 128 bit SSL encryption using X509v3 private keys and digital certificates.
- 1.29 REMCo will set the key pairs used by the FRC Hub transport layer encryption to be the same ones used in digital signing and verification.

- 1.30 REMCo will house production and DR Hubs in physically secure environments with strictly controlled access.
- 1.31 REMCo will deploy advanced firewall and logical enclave technologies at production and DR FRC Hub sites, insulating these servers from internal or external attack. These servers will not share network enclaves with any other REMCo equipment.
- 1.32 REMCo will log all security incidents and report all incidents to affected REMCo Members within one month of the incident.
- 1.33 REMCo will separate geographically the production and DR Hubs by more than two kilometres.
- 1.34 REMCo will perform a nightly backup of all Hubs (production, test and development) onto removable media.
- 1.35 REMCo will store all backup data in a secure off-site location.
- 1.36 REMCo will manage backup data under a formal, documented, and physically secure process.

Multiple Environments

- 1.37 REMCo will operate hub environments for development, production, test and disaster recovery.
- 1.38 REMCo will provide a testing gateway within the test environment for use by market participants and distributors which will be available at all times apart from scheduled and unscheduled outages.
- 1.39 REMCo will ensure that the testing gateway will provide an aseXML transaction acknowledgment to the initiator of all transactions delivered to the testing environment.
- 1.40 REMCo will configure the testing gateway to perform aseXML validations against the REMCo Specification Pack.

Protocol Support

- 1.41 REMCo will ensure that the FRC Hub will conform as a routing application in terms of the ebXML Message Service Specification ver 1.0 or as updated by REMCo as a result of any industry consultative process used to manage the REMCo Specification Pack.
- 1.42 REMCo will ensure that the FRC Hub maintains a communications profile defining the physical address for each REMCo Member.
- 1.43 REMCo will ensure that the FRC Hub transmits messages to REMCo Member using the secure HTTP/S protocol.
- 1.44 REMCo will ensure that the FRC Hub uses the deployed public key infrastructure and authenticates all message senders as being registered REMCo Members.
- 1.45 REMCo will ensure that former or prospective REMCo Members will not be authenticated to send production messages and that the FRC Hub will not transmit messages from such parties, or from any other party attempting to interoperate using a revoked digital certificate.

- 1.46 REMCo will ensure that the FRC Hub will not modify a message payload (the aseXML document) in any way.

Network Infrastructure

- 1.47 REMCo will ensure that the FRC Hub will provide REMCo Members with the ability to communicate with the FRC Hub via the Internet or the Victorian Gas Industry Network (VGIN).
- 1.48 REMCo will ensure that Production and DR Hubs will have redundant and separate network circuits to the internet and to the VGIN.
- 1.49 REMCo will ensure that the FRC Hub provides a minimum bandwidth connectivity to the Internet of 1Mbps.
- 1.50 REMCo will ensure that the FRC Hub provides a minimum bandwidth connectivity to the VGIN of 1Mbps.
- 1.51 REMCo and each REMCo Member will ensure their gateway services are connected to the Hub with a minimum bandwidth of 500kbps. This service may be a shared service.

FRC Hub Administration

- 1.52 REMCo will provide a browser-based management interface with which REMCo Member can inspect their own FRC Hub profile.
- 1.53 The management interface will allow REMCo Members to trace messages that they have sent to the FRC Hub.
- 1.54 REMCo will monitor, analyse, and report performance levels as set out in Section 2 to REMCo Members' performance of the FRC Hub on a monthly basis.
- 1.55 REMCo will provide reports to REMCo Members about any abnormality that affects FRC Hub availability via the FRC relay reporting infrastructure.
- 1.56 REMCo will ensure that the FRC Hub environment will be under a controlled change management process. This process will ensure that proposed changes are communicated to REMCo Members and scheduled appropriately. Changes that require downtime will be scheduled with defined periods.
- 1.57 REMCo will make reasonable endeavours to ensure that the FRC Hub change management process will be designed to have maximum protection of FRC Hub availability and service quality.

Certification

- 1.58 REMCo will provide a certification gateway, to support the certification of REMCo Members' compliance with the relevant sections of the REMCo Specification Pack.
- 1.59 REMCo will ensure that the certification gateway will provide an automated environment whereby REMCo Members may perform an auditable suite of certification routines.

- 1.60 REMCo Members will ensure that the certification gateway will provide a REMCo Member with a management interface to allow the REMCo Member to schedule certification scripts that cause the certification gateway to send message sets to the transaction initiator appropriate to their industry role.
- 1.61 REMCo will upon successful certification by a REMCo Member issue a certificate indicating to all subscribers, certifying that the REMCo Member complies with the deployed protocols defined in the REMCo Specification Pack.

Help Desk

- 1.62 REMCo will provide 24 hours by seven days help desk services to manage REMCo Members’ queries and problems. REMCo Members can use telephone, fax or email to send a helpdesk query, with telephone being the preferred method of contact.
- 1.63 The help desk will log all calls and refer calls to appropriate technical staff for resolution
- 1.64 The help desk will use reasonable endeavours to answer all telephone calls within 30 seconds.

The help desk will categorise calls into one of four priorities and respond in accordance with the following table:

Priority	Example	Response Time	Target Resolution Time
Priority 1	problems that cause total loss of service to one or more subscribers. Resolution activities will continue until the problem is resolved or a temporary solution implemented. An example of a priority one problem is the malfunctioning of network or communications infrastructure	20 Min	4 Hours
Priority 2	problems that cause partial loss of a critical service. For example, the loss of the VGIN network at the FRC Hub, causing subscribers to use the Internet as an alternative route to the FRC Hub.	1 Hour	8 Hours
Priority 3	problems that cause minimal loss of a critical service to one or more subscribers. Examples of this category may include hardware, software, or network problems	4 Hours	5 Days
Priority 4		Next	By

Priority	Example	Response Time	Target Resolution Time
		Business Day	Negotiation

Digital Certificate and Registration Authority

- 1.65 REMCo will register REMCo Members admitted to the system, verifying the bona fides of those parties.
- 1.66 REMCo will deliver and maintain a secure REMCo Certificate Authority (CA) root certificate.
- 1.67 As root CA, REMCo will deliver trusted digital certificates to REMCo Member.
- 1.68 As root CA, REMCo will satisfy digital certificate-signing requests for REMCo Member by the end of the next Business Day following the day on which the request was received.
- 1.69 REMCo will revoke and re-issue digital certificates to REMCo Members as appropriate.
- 1.70 Upon approval by each REMCo Member will receive three X.509 Certificates - a certificate that contains the subscriber public key, a certificate containing the FRC Hub public key, and the REMCo CA root certificate.
- 1.71 The system topology will mean REMCo Members do not have to take any measures to determine the validity of digital certificates. Upon the discovery of a compromised subscriber private key, digital certificate revocation will be immediately handled at the FRC Hub.
- 1.72 In the event of REMCo Member’s digital certificate revocation, other subscribers will not be required to make system or configuration changes.
- 1.73 REMCo will keep confidential details of REMCo Members digital certification.

2 REMCo Member’s Responsibilities

- 2.1 Each REMCo Member shall manage their gateway connected to the FRC Hub such that any service interruptions are identified and action initiated to rectify the problem within the timeframes set out in Table 3. The period commences from the time a notice is delivered via the FRC relay facility.

Table 3

Period	Response time (hours)
Business Hours Mon -Fri (excluding National Public Holidays)	1
Non-Business Hours Mon - Fri (excluding National Public Holidays)	2
Sat, Sun, (starting 7:00pm Fri and finishing 7:00am Mon) National Public Holidays	4

2.2 Where a REMCo member becomes aware of any service interruption associated with their gateway, the REMCo member must deliver a notice identifying the issue via the FRCrelay notification facility at the earliest opportunity but at least within the timeframes set out in Table 4.

Table 4

Period	Response time (hours)
Business Hours Mon -Fri (excluding National Public Holidays)	1
Non-Business Hours – within 1 hour of the commencement of the next business Day Mon - Fri	1
Non-Business Hours not within 1 hour of the commencement of the next business Day (i.e All times not covered in the two rows above)	4

For the avoidance of doubt Business hours refers to the business hours of the market jurisdiction in which the Subscriber is active and are the business hours specified in the market impacted by the service interruption. For example an issue in a market based on Central Standard Time (SA) would precede a market based in Western Standard Time (WA).

- 2.3 Each REMCo Member will use the ebXML Message Service Specification, and defined parameter settings thereto, to transport aseXML over HTTP/S.
- 2.4 Each REMCo member will ensure that their gateway is configured to respond to a "HUB ping" periodically initiated by the HUB Operator as a monitored connectivity health check. For the avoidance of doubt REMCo members should avoid routine and frequent use of Ping connectivity testing point to point between gateways and only use Ping testing to resolve specific connectivity issues.
- 2.5 Each REMCo Member will ensure that there will be no payload encryption within an ebXML message transmitted via the FRC HUB. All encryption is to be applied at the transport layer.
- 2.6 Each REMCo Member will provide to REMCo a communications profile defining the protocol of choice and physical address for themselves.
- 2.7 Each REMCo Member will be responsible for the contract to provide their own bandwidth management, either to the Internet or into the VGIN.
- 2.8 Each REMCo Member will be responsible for their contract and business relationship (including fault management) for their connectivity to the VGIN or the Internet.
- 2.9 Each REMCo Member will ensure as part of the messaging infrastructure that all messages are time-stamped on transmission in the gateways, providing complete data on transmission latencies directly to subscribers.
- 2.10 Each REMCo Member will assist the Hub Service provider (REMCo or its delegated provider) to co-ordinate and manage definition of any changes that are required by other parties to B2B transactions and processes. Each REMCo Member will work with REMCo to allow REMCo to assess the impact and to design and implement the change to be implemented by an update to the REMCo Specification Pack.