

Fitrix Disaster Recovery (DR) System Overview of Options

Instructions:

- All services times are estimates for high level planning purposes only and will vary by Fitrix installation. Please request a quote for implementing DR for your requirements.
- All services assume only 1 database, some service times will increase for multiple databases but the approach does not change.
- It is very unlikely that a DR plan that is not fully tested in a dry run regularly will actually work as intended when needed; it is your responsibility to conduct and regularly test and certify the results. With each of these options we strongly recommend conducting a full dry run at least once every 3 months to achieve the goals of the options.
- These options assume that the primary and secondary servers are connected to the same network.
- There are many variations on configuring some of the options presented and many other ways to implement DR up to and including complete redundancy with automatic failover of dual applications servers and dual database servers (and even cloud based servers in the event that your entire region faces a disaster).
- Your I.T. team is responsible for providing and implementing all hardware, networking and operating infrastructure for each of these options, no effort or cost has been identified for these areas.

Option 1: Nightly copy of virtual Fitrix environment, without logging

(non-virtual users may want to convert to virtual to use this option, see note below)

Description:

- Your Fitrix server software including applications and database are installed in a virtual environment on a primary virtual server. Your I.T. team implements a nightly schedule to shut down the primary Fitrix virtual environment and back it up to a secondary virtual server which is a separate physical virtual server on your same network. In the event of a failure of the primary virtual server, the Fitrix virtual environment on the secondary virtual server is booted. Fitrix will need to be licensed as licensing is tied to the physical server, otherwise the Fitrix environment on the secondary server should be identical to the Fitrix environment on the primary server of the night before and run with no differences. Since the I.P. address of the Fitrix environment will not have changed, there will be no changes to the Fitrix thin clients or any ODBC connections.
- The secondary virtual Fitrix environment cannot be run at the same time as the primary as they share an I.P. address (and this would also not be allowed for license compliance).



- If your Fitrix installation is not currently virtual, your I.T. department can convert it to virtual using standard 'p-to-v' (physical to virtual) tools with no impact on the operation of Fitrix (relicensing will be required).

Services Required from FGSS:

- Fitrix will need to be relicensed after a recovery to a different server (1 hour).
- Support during a dry run that your I.T. team conducts. (1-3 hours).

License Cost:

- There is no additional licensing.

Recovery Time:

- 1 to 3 hours typically (your I.T. team may be able to get this down to <1 hour if immediately available and fully up to speed).
- Just boot the secondary environment and license it.

Data Loss:

- All data is lost back to the prior days end of business (maximum 1 business day).
- (this can be reduced via log restore option below).

Other Considerations:

- No impact on users – thin client, odbc connections are unaffected.
- The secondary server cannot be used for queries or any other purpose (this is both a licensing restriction and the primary and secondary virtuals will share the same I.P. address and cannot be booted simultaneously).

Total license and service cost estimate: \$600.00

Option 1A: Nightly copy of virtual Fitrix environment, with logging

Description:

- This is option 1 with logging added (see option 1 for additional details).
- Database logging will be implemented so that as the database is used, all changes and additions are recorded as they are made to an external device such as a remotely mounted hard drive folder or a tape drive. In the event of a disaster, the log will be recovered to the DR database so that only uncompleted transactions are lost.
- This would typically mean that no work would be lost except for work that had not been saved (an order that is being keyed for example).
- The Informix database transaction logic is enforcing data integrity.

Services Required from FGSS:

- In addition to Option 1:
- Configure the primary server to: (6 hours)
 - Log to an external device (to be made available by your I.T. department).
 - Checkpoint the database and restart the log during the nightly export.
- Train your I.T. department to recover the log (otherwise you can contact us to do this but we can only make best efforts at the turn-around time) (6 hours).
- Conduct a full dry run with your I.T. department (6 hours).

License Cost:



- There is no additional licensing.

Recovery Time:

- 1 to 3 hours typically.
- boot the secondary environment and license it.
- Recover the database log.

Data Loss:

- Minimal (typically only unsaved transactions are lost).

Other Considerations:

- In addition to option 1:
- This adds an additional level of complexity which requires support and is not likely to work when needed if not tested frequently and your I.T. team kept up to speed on the process.

**Total license and service cost estimate (In addition to approximately \$600 for Option 1):
\$3,200.00**

Option 2: Warm Standby Server without logging

Description:

- The warm standby server can be physical or virtual. For the purpose of this description a physical server will be assumed (the only difference for virtual is that the initial setup effort may be reduced by cloning the primary rather than the full installation.)
- A complete copy of the Fitrix software will be installed on the secondary server and licensed as a 'warm standby server' meaning that the software can be running and ready for use at all times but cannot be used for any useful purpose such as running queries or reports based on the prior day's close of business (If this is desired the only difference is that a full license is required and this would be considered a 'hot standby server.')
- A nightly process will be implemented to export the primary database then import it on the secondary server.
- All software changes made on the primary server will need to be updated to the secondary server. (This will increase your ongoing support costs but does not affect the cost or effort to implement this option).
- As the secondary server will have a separate I.P. Address from the primary, each Fitrix user will require a separate Fitrix Thin Client login profile for accessing the secondary server which they must only use in the event of a disaster. (we recommend that your server login script(s) be altered to fail if this option is used accidentally by a user and the restriction removed in the event of a disaster).
- All ODBC connections to the primary server will need to be changed to the secondary server in the event of a disaster.

Services Required from FGSS:

- Full installation and configuration of all Fitrix server software (15-35 hours).
- Implement and test nightly export/import (10 hours).
- Update install point and 1st user for additional login profile(s) (your I.T. team to deploy all other users) (3 hours).



- Support during a dry run test that your I.T. team conducts. (3 hours)

License Cost:

- Fitrix DR license, 10% of regular license cost, DR licenses much match primary licenses (same user count).

Recovery Time:

- < 1 hour typically.
- Unless the logins are disabled the system is ready to use.
- (ODBC connections must be changed if applicable).

Data Loss:

- All data is lost back to the prior days end of business (maximum 1 business day).
- (this can be reduced via log restore option below).

Other Considerations:

- Users must use an alternate login profile.
- ODBC connections must be changed.
- The secondary server can be used for queries or reporting with additional licensing.

Total license and service cost estimate: \$11,000 average

- **Typical services \$6,000 - \$10,000**
- **DR licensing for Fitrix Standard Edition with 5 MFG modules and 15 users total \$3,100.00**

Option 2A: Warm Standby Server with logging

Description:

- This is option 2 with logging added (see option 2 for additional details).
- Database logging will be implemented so that as the database is used, all changes and additions are recorded as they are made to an external device such as a remotely mounted hard drive folder or a tape drive (typically a remotely mounted folder on the secondary Fitrix server). In the event of a disaster, the log will be recovered to the DR database so that only uncompleted transactions are lost.
- This would typically mean that no work would be lost except for work that had not been saved (an order that is being keyed for example).
- The Informix database transaction logic is enforcing data integrity.

Services Required from FGSS:

- In addition to Option 2:
- Configure the primary server to: (6 hours)
 - Log to an external device (to be made available by your I.T. department).
 - Checkpoint the database and restart the log during the nightly export.
- Train your I.T. department to recover the log (otherwise you can contact us to do this but we can only make best efforts at the turn-around time) (4 hours).
- Conduct a full dry run with your I.T. department (6 hours).

License Cost:

- There is no additional licensing.

Recovery Time:



- 1 to 3 hours (can be <1 hour if your I.T. staff is immediately available and up to speed).
- Recover the database log.
- Enable the logins if disabled.
- (ODBC connections must be changed if applicable).

Data Loss:

- Minimal (typically only unsaved transactions are lost).

Other Considerations:

- In addition to option 2:
- This adds an additional level of complexity which requires support and is not likely to work when needed if not tested frequently and your I.T. team kept up to speed on the process.

Total license and service cost estimate (In addition to Option 2 which will average around \$11,000 depending on services and licensing): \$3,200.00

Option 2B: Warm Standby Server with HDR (full continuous replication)

Description:

- This is option 2 with Informix IDS HDR implemented (see option 2 for details)
- The higher level Informix database editions have a feature called HDR (High Availability Data Replication).
- Informix HDR will be implemented so that as the primary database is used, all changes and additions will be immediately replicated to the secondary database.
- In the event of a disaster, users will use their alternate login profile to login to the secondary server and can immediately pick up where they left off as they will be using the replicated database.
- This would typically mean that no work would be lost except for work that had not been saved (an order that is being keyed for example).
- The Informix database transaction logic is enforcing data integrity.

Services Required from FGSS:

- In addition to Option 2:
- Install and upgrade the database on the primary and secondary servers to IDS Growth Edition (15 hours).
- Update database tuning for new database edition (8 hours).
- Initial backup/restore to secondary database (6 hours).
- Configure HDR and basic testing (6 hours).

License Cost:

- Purchase IDS Growth Edition (based on unlimited, single socket) \$16,000.00

Recovery Time:

- < 1 hour typically (this can be reduced down to just a few minutes if your I.T. team is fully available and up to speed).
- Unless the logins are disabled the system is ready to use.
- (ODBC connections must be changed if applicable).

Data Loss:

- Minimal (typically only unsaved transactions are lost).



Other Considerations:

- In addition to option 2:
- This adds an additional level of complexity which requires support and is not likely to work when needed if not tested frequently and your I.T. team kept up to speed on the process.
- There are many variations on how to implement this option, we are presenting the one that we believe is the most appropriate to a typical Fitrix user.

Total license and service cost estimate (In addition to Option 2 which will average around \$11,000 depending on services and licensing):): \$23,000.00

Option 3: Host Fitrix with a private cloud vendor

Description:

- Fitrix can be hosted with any 3rd party hosting service/private cloud vendor (such as 'Rackspace' www.rackspace.com) that can host your virtual Fitrix server environment and take responsibility for all of your backup and recovery and high availability issues.
- This is not the same as 'Software as a service' (SaaS) as you still own the license and maintain the software with support from FGSS with the main difference being that your Fitrix server is now located with the 3rd party provider who takes on most of the hardware and operating system (and some of the networking) systems administration duties.
- This may be a good option if you have multiple locations and want to ensure continuation of service to your remote locations should your main office go off line due to a local disaster.

Services Required from FGSS:

- This can vary widely depending on the requirements of the 3rd party provider and may be as simple as virtualizing your existing Fitrix server and delivering it or your current virtual Fitrix environment which would only require a few hours of support from FGSS related to the relocation of your server (5 hours)
- At the most this would involve a full new installation of Fitrix, typically 15-35 hours

License Cost:

- There is no additional licensing; your existing licensing would continue to apply unless you expanded the configuration in some way.

Recovery Time:

- Ask your 3rd party provider but typically they are using advanced virtualization techniques that guarantee high availability and this issue would not apply.

Data Loss:

- Ask your 3rd party provider what the possibilities would be (should be very minimal).

Other Considerations:

- On-going cost of hosting service.
- Requires high speed network access from your location(s) to 3rd party provider's location and on-going cost.

Total license and service cost estimate: \$1000.00 to \$8000.00

