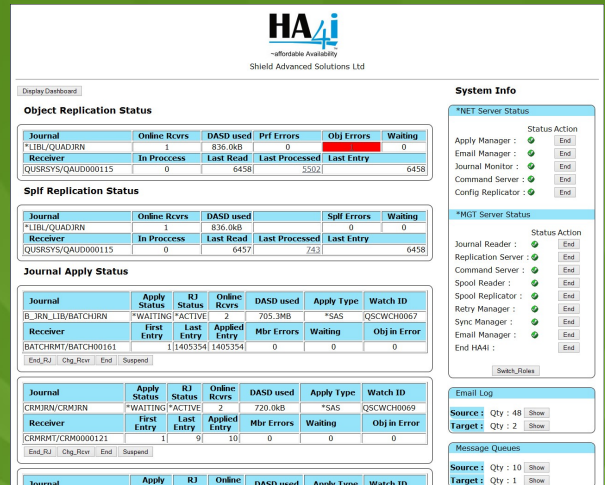# HA4i™

~affordable Availability

HA4i is a complete High Availability Solution used in high profile clients around the world

FEATURES

- Easy installation and configuration
- Uses Remote Journal technology
- Choice of Apply methods (*SAS or *IBM)
- Fully automated Object replication
- Automatic Profile & Password replication
- Full auditing capabilities
- Automated Switch process
- Optional PHP Interface for monitoring

SYSTEM REQUIREMENTS

- IBM i OS Version 5 release 4 and upwards
- Suitable network connection between the source and target systems
- Journaling for both object and database replication, if you do not have journaling enabled, you will need sufficient resources to support the journaling processes

IBM Business Partner

AFFORDABLE HIGH AVAILABILITY SOLUTION

HA4i is a premier High Availability solution of the IBM i and its predecessors (AS/400, iSeries, Systemi, i5, etc). Developed from our experience with other High Availability solutions and customer requests, HA4i delivers a flexible and simplistic approach to implementing a High Availability offering. The product was originally called the Receiver Apply Program because its apply process was based on a technology pioneered by Shield's Chris Hird for applying remote journal receivers using the APYJRNCHG command.

New features and enhancements have taken the product beyond its original concepts which also encouraged a name change to HA4i (High Availability for the IBM i). While the original apply technology still survives in the product, it has been supplemented by a totally new apply process which removed many of the restrictions placed on the product by the APYJRNCHG process. Our customers are raving about how fast and capable the new apply process is. The additional new features we have been able to add because of it, make the product a premier High Availability solution.

HA4i is a full function High Availability Solution that provides the ability to securely replicate your important system data and objects between systems. HA4i is running in many high profile and very demanding IBM i environments with extremely high customer satisfaction levels. It is constantly evolving with new enhancements and improvement being delivered regularly.

Cost

HA4i is attractively priced yet offers the same capabilities found in products that cost a lot more. It has been developed with "ease-of-use" at its core, this reduces the cost of ownership and provides an easily manageable environment for the small IBM i shop. Installation and fix management is carried out using the same commands used to manage the OS. Licensing is IBM CPU tier based, we do not charge extra for LPARs or additional CPU activations where they stay within the same CPU tier.

Shield
ADVANCED SOLUTIONS LTD

Database File replication

The original apply process employed by HA4i uses the IBM APYJRNCHG functionality. This brought a number of benefits to the users, such as only applying the data when a receiver is changed and the OS was responsible for applying the data, but it also has a number of drawbacks due to the fact that once started control is passed to the APYJRNCHG command. This encouraged Shield to develop its own apply process which uses the remote journal technology as the intersystem transport, but applies the entries to a remote database using our own programs. This has brought a number of new benefits, none more important than offering choice and being able to enhance the apply process based on customer requirements.

Object Replication

Object replication is triggered using the QAUDJRN. As soon as entries are placed into the journal receiver, they are read and if necessary a replication request is placed in the replication queue. This ensures the replication process only replicates the latest copy of an objects and removes duplication of effort. The number of objects supported by the replication process continues to grow, as customers require additional support we are able to introduce it very quickly.

IFS Replication

The IFS can be replicated using the object replication processes (based on the QAUDJRN), or using the user journal process (Journal entries are applied on the target using the IBM or SAS apply process). The object replication process will automatically filter out any requests for those objects which are also being replicated using the user journal configured to HA4i.

Auditing

Auditing is important for any High Availability Solution. Even if the apply process does everything it should, there can be times when audits provide additional functionality. The audits available through HA4i have seen many improvements as a result of customer feedback. This has resulted in automated repair capabilities and better object audits.

Monitoring

HA4i has a number of tools which significantly ease the burden of managing the product. An automated process can be configured to run at a set frequency that will check that the processes which should be running are, plus ensure the remote journal links are kept active. It can be configured to notify any number of users if problems are found (even if they are corrected) using a number of notification methods.

HA4i comes with an Email capability which can be configured to send notifications out to pre-determined users via your own internal SMTP server. The PHP interface also has colour coded notifications that provide the user with instant visual notification that problems exist.

Web-based Interface

HA4i can be controlled entirely using the standard UIM interface, but the advantages of the web based interface, developed using PHP and the Easycom™ toolkit, provide the user with a lot more information due to the additional space available to a web browser. The interface is secured using the IBM i sign on and cannot be used without the user entering their credentials.

Implementation

HA4i is packaged as an IBM LPP, this means the install and management uses the same IBM commands you use for installing and maintaining the IBM OS. To install, you simply download the base product as a save file from the website, and use the RSTLICPGM command to install and configure the product. The updates we provide are packaged as IBM PTFs, they will be posted to our website to allow download for those users who are under a current maintenance agreement for the product. Installation takes minutes and uses the IBM LOD/APYPTF commands.

Configuration

The installation process gathers the required common configuration data and simple to understand menus offer the ability to configure the application specific data prior to starting the replication process. Once you have configured each side of the replication process you can start the programs and HA4i will maintain a duplicate copy of the configured data and objects on the remote system.

Management

HA4i attempts to recover from most replication errors without notification to the user, however, if an error is found which it cannot rectify, it will pass that notification to the user in a number of ways.

For those users who do not obtain the PHP interface there are a number of screens which are provided to indicate how the replication process is performing. Any errors which are found that cannot be rectified will have notifications sent to these management screens plus a message queue. The PHP interface simplifies this even further by providing a unified view over each system with colour coded indicators for the errors. Commands and menu options provide the user with full control over the replication processes and recovery of failed requests which make the product very simple to manage on an ongoing basis.

Additional Tools

Additional tools included in the product which add to the value of the High Availability Solution. Why only have automated replication? With HA4i we provide tools that allow the user to carry out operations between systems:

- Synchronise Library and IFS objects which are not automatically replicated.

- Calculate IFS directory size.

- Create a duplicate profile and copy to target system.

- Save selected objects to a save file.

- Create remote libraries.

Services Available

Installation and configuration

HA4i is able to be installed by most IBM i administrators, however, if you need assistance we provide highly trained consultants who will be able to install and configure HA4i.

Bespoke development

If you need additional programming support to develop additional tools not provided by HA4i, or need assistance developing the exit programs used by HA4i in role swaps, Shield has the expertise to help.

Project management

Providing a fully recoverable High Availability / Disaster Recovery environment can be challenging, we can offer expert project management to ensure your project is delivered on time and within budget.

Remote management

We know how to manage a High Availability environment and have a deep understanding of the technology used within our replication products. Let us use our knowledge and skill to manage your environment and allow your staff to undertake other important tasks.

Hosting

If you need to have your High Availability / Disaster Recovery hosted outside of your company we can offer the service via one of our partners.

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