Proposal to

The Multistate Registration and Filing Portal, Inc

Against RFI
Development of Filing Portal

March 28, 2016

Author: Shailesh Gupta (Vice President) IRIS Business Services Limited

Contents

1 Executive Summary

This document is in response to the Request for Information by Multistate Registration and Filing Portal (MRFP), Inc. for development of an online system that will allow nonprofit organizations and professional fundraisers to register and report their annual filing information complying with all states' filing requirements.

Financial Regulatory bodies in countries across the world have mandated the regulated entities to do reporting in a standardized data format. Standardised Interactive data has the potential to increase speed, accuracy and usability of financial disclosure, and eventually reduce costs. To be consistent with the progress in the financial market, we suggest MRFP to adopt the global standardised format "XBRL" for reporting to be done by the charitable organizations. XBRL (eXtensible Business Reporting Language) is an open international standard for digital business reporting, managed by a global not for profit consortium, XBRL International. Millions of XBRL documents are created every year, replacing older, paper-based reports with more useful, more effective and more accurate digital versions.

This document outlines an XBRL based reporting framework that would enable MRFP to efficiently collect information, monitor and accurately do analysis to be able to serve as a non-biased and fair institution to regulate the non-profit organizations.

2 Company Profile

IRIS is an established provider of XBRL-based solutions and services. IRIS is headquartered in Mumbai, India and has subsidiaries in UAE, U.S.A, and Singapore. IRIS is both a member of XBRL India Jurisdiction and XBRL International. The firm has over 12 years of proven expertise in the financial information management space, and has been providing customized technology solutions for data and content management.

IRIS' offerings cover the information supply chain spectrum with solutions for creation, collection and consumption of structured data for financial reporting & compliance. Within India itself IRIS has been at the forefront of several XBRL initiatives in the country. IRIS has implemented XBRL solutions in India for Central Bank, Securities Market Regulator, Stock Exchanges, and Business Registries and also has developed taxonomies for Banking & NBFC and Mutual Funds sectors.

Internationally, IRIS' clients in the XBRL space include Emirates Securities and Commodities Authority (UAE), Tadawul Stock Exchange & Ministry of Commerce and Industry (Saudi Arabia), Accounting and Corporate Regulatory Authority (Singapore), Department of Business Development (Thailand), Bank of Mauritius (Mauritius), Qatar Financial Centre Regulatory Authority (Qatar), Corporate and Business Registration Department (Mauritius, on-going).

IRIS offers consulting services to assist regulators in transitioning to an XBRL enabled framework and also provides customized training through workshops on XBRL, classroom sessions and web demonstrations. IRIS has a team of close to 400 people, of which around 80% are with IRIS' XBRL practice. This includes taxonomy specialists, accountants, XBRL analysts and software engineers.

3   Solution Proposed

3.1   XBRL

XBRL is a non-proprietary open standard used for the preparation, exchange and publishing of business information. Being electronic and machine-readable it can be used for transmitting information over the internet and can be interpreted and processed by the software.

3.1.1   What does XBRL do?

- It enables tags to be applied to data that uniquely identify each fact to a computer. These are more than simple identifiers. They provide a range of information about the item that computers need to understand it

- It attaches large amounts of human readable information to each fact so that it is uniquely identified to a non-technical person. This additional information about each item can be made available in different languages

- XBRL can show how items are related to one another in a classification system (e.g. financial statement) and also mathematically

- The XML tagging means that the information in a business report is computer readable and can be more easily extracted, searched and analysed by users of that information

- It represents an agreement between many countries and organisations on how this should be achieved

3.2   IRIS iFILE

IRIS proposes use of its iFILE framework for managing registration and submissions done by filing entities to MRFP. IRIS iFILE is an XBRL based electronic filing platform. It comprises of individual modules facilitating document creation, validation, data collection, data extraction, analysis, dissemination and rendering. The framework relies upon modular and scalable architecture and it can be seamlessly integrated with existing/other third party components.

IRIS iFILE framework would provide the registrants a MS Excel environment in which the they need to simply fill in the data or pull from their electronically pre-filled 990s and populate the excel sheet. iFILE Client would validate the data and create XBRL instance document. The XBRL instance document is what the registrants need to then file with States' regulator.

On the server side, IRIS iFILE Server Suite will provide the remaining components which would push this data into a relational database from which any kind of reports can be generated.

iFILE framework largely includes – XBRL Authoring Tool (iFILE Client tool and iFILE Web based Forms), XBRL Validator (Verify), Server Components (iFILE server submission platform containing – user management, entity management, filing management, workflow, notification module, rendering engine, dissemination modules, storage).

IRIS iFILE has been detailed in Annexure I.

3.2.1 Benefits and Advantages of IRIS iFILE

1. IRIS iFILE is a modular solution and can be easily integrated into existing solutions as well as other systems either in parts or in whole
2. Allows horizontal as well as vertical scaling. By adopting the architecture of iFILE scalability can be achieved to implement the platform for all 39 states having large number of filers, peak filing loads
3. Works on open platforms and does not require any proprietary hardware and operating system.
4. Complies with government & industry regulations. Data security and privacy regulations can be addressed adequately
5. iFILE comes with a free authoring tool that could aid registrants create the XBRL document for filing. This may reduce the reluctance shown by states' to provide data in XBRL. Even if the registrants does not have knowledge about XBRL, he can still create an XBRL document without incurring any cost on additional software or hardware
6. Licensing: IRIS iFILE works on an enterprise license. Hence can be installed in a number of systems including disaster recovery platform without the increased cost of licensing.

4 Where is iFILE implemented?

Regulatory bodies around the globe use iFILE to implement XBRL based financial reporting.

Central Banks

1. Reserve Bank of India (India) –
    o Implementation of XBRL returns for 6 Departments
    o Developed CRILC Repository helping banks in their credit appraisal process
    o Functionality for Third Party (NSDL)Verification of PAN Numbers
    o Inter-Form Validations implemented for OSMOS returns to ensure compliance in reporting
2. Mauritius Network Services (Mauritius)
    o Taxonomy based on Basel III ,Banking regulations
    o 380+ Business Intelligence reports
    o 110 returns/forms implemented within record 15 months
3. Qatar Financial Centre Regulatory Authority (Qatar)
    o Electronic filing platform for Banking and Insurance firms integrated with existing systems (FIRMS and ESS)
    o Adoption of COREP, FINREP and Solvency II standards in taxonomy
    o 500+ Business Intelligence reports using Microsoft Business Intelligence (MSBI)

Business Registries

1. Ministry of Commerce and Industry (Saudi Arabia)

- o Electronic Filing Platform for Ministry of Commerce and Industries
- o Taxonomy development using IFRS 2014 as base for Banking, Insurance & other Sectors
- o Integration with existing systems at MCI for data exchange (ZAKAT, MCI ECR system, MCI e-mail & SMS gateway, SOCPA, SADAD)

2. Accounting and Corporate Regulatory Authority (Singapore)
   - o Taxonomy development based on IFRS
   - o Development the new BizFinx platform (Desktop based tool, internet and intranet application)
   - o Dashboard application to identify noncompliance and to check variance based on business rules

3. Department of Business Development (Thailand)
   - o Taxonomy development
   - o Submission platform

4. Corporate and Business Registration Department (Mauritius – ongoing)

Stock Exchange

1. Tadawul (Saudi Stock Exchange)
   - o Taxonomy development based on IFRS and Saudi local accounting laws
   - o Platform to report company financials

Securities Commission

1. Emirates Securities and Commodities Authority (United Arab Emirates)
   - o Taxonomy development based on IFRS
   - o Development of submission portal
   - o Provision of analytics

5 Why and when is XBRL used?

XBRL being the global reporting standard, it can be easily adopted for other reporting initiatives proposed by organizations.

Sustainability Reporting – GRI

Sustainability reporting enables organizations to consider their impacts of wide range of sustainability issues, enabling them to be more transparent about the risks and opportunities they face.

A sustainability report is a report published by a company or organization about the economic, environmental and social impacts caused by its everyday activities. A sustainability report also presents the organization's values and governance model, and demonstrates the link between its strategy and its commitment to a sustainable global economy.

To date, XBRL has been used predominantly for financial reporting. However, XBRL can also be used for non-financial information. GRI developed the GRI Taxonomy to enable organizations to report sustainability information in XBRL. The Taxonomy allows investors, auditors, and analysts to access information within sustainability reports faster and easier. Organizations can benefit from a well-defined, structured format for collecting and disseminating sustainability information. It enables both reporters and regulators to exchange sustainability data electronically and inform stakeholders with consistent and high quality information.

GRI has also launched a Voluntary Filing Program, where reporters that use the new GRI Taxonomy can promote their tagged reports on GRI's website.

Carbon Disclosure Project - CDP
The Carbon Disclosure Project (CDP) is an independent not-for-profit organization working to drive greenhouse gas emissions reduction and sustainable water use by business and cities. CDP provides a transformative global system for thousands of companies and cities to measure, disclose, manage and share environmental information.

The XBRL taxonomy has been built on the work of two main initiatives on climate change disclosure: the Carbon Disclosure Project and the Climate Disclosure Standards Board. It associates specific reporting concepts with "tags" thus easily identifying individual reporting elements which can then be easily shared, reused or transmitted electronically.

The Climate Change Reporting Taxonomy is unique in its approach, in the sense that is a specialized and focused taxonomy on the theme of climate change. It fulfils the disclosure requirements of the Carbon Disclosure Project and the Climate Change Reference Framework that require the disclosure of information at corporate level. It is likely to evolve to cover greater granularity of information in the carbon accounting/climate change domain.

6   iFILE implementation for other sectors

XBRL has been adopted by several industries around the globe apart from financial domain. As the standard brings in flexibility to extend the taxonomy and create elements as per the requirement, it can be leveraged to report data of any kind.

A few of the XBRL initiatives belonging to sectors other than financial domain are pension fund regulation, income tax filing, cost audit, micro-finance reporting etc. In addition to financial disclosure reporting IRIS has implemented XBRL enabled iFILE platform for Anti-Terrorism Squad (ATS - Maharashtra) and Navi Mumbai Traffic Police.

Anti-Terrorism Squad – IRIS has developed reporting templates and portal for ATS to collect and maintain the Interrogatory Reports (IR) of the accused. The software allows data to be filed and converted into XBRL format which is uploaded on the portal. The XBRLised data allows ATS to investigate the linkages between crimes happened at different places, analyze any data point like an

accused or a crime and understand the complete information around it. It also keeps intact the confidential aspect of the data.

XBRL enabled electronic Database – IRIS has implemented the online reporting format for Mumbai's traffic cops, to tighten screws on repeat offenders and fight crime. The tool uses XBRL to maintain an electronic database of the challans and entries in the daybooks. Challans are entered manually by traffic constables, which is a cumbersome affair. The software allows online reporting on data, converts it into XBRL so that it is easy to share and collect information within different traffic units in the city, also enables one to sort the data online by location, fine, vehicle etc.

7   Conclusion

XBRL enabled iFILE framework would equip MRFP with a single online portal for multiple registrants belonging to different states to file their annual information and generate reports for analysis. The platform would take away the inconvenience and in efficiency for registrants in complying with 39 states' different registration requirements. Having a single online portal would avoid uncertainty of paper filings, bring in efficiency, data transparency, ease of data sharing and make information available to public in an interactive format. This will enable states to focus on their core regulatory responsibility of preventive fraud and abuse of charitable funds.

IRIS would study the reporting requirements, IRS Forms to create reporting taxonomy for these forms. In addition to this IRIS would also study and analyze the kind of reports required by the states' regulators to govern and manage the charitable funds and understand the existing portal for the purpose of integration (as per the requirement). As a part of deliverable for the pilot phase IRIS would perform the following activities:

- Taxonomy based on reporting forms and iFILE Client templates
- Online platform for data collection and storage of information
- Reports and dashboard – interactive information available to public and analytical data for regulators
- Training to users

8   Annexure

IRIS iFILE is a complete end to end electronic filing system. Comprising several modular components, the framework caters to the various stages of information lifecycle, hence enabling a flexibility and ability to customize the system for any reporting environment.

The following diagram depicts the various components of the IRIS iFILE Architecture, followed by a brief description of each of the components:

IRIS iFILE is divided into iFILE Excel client and iFILE Server component.
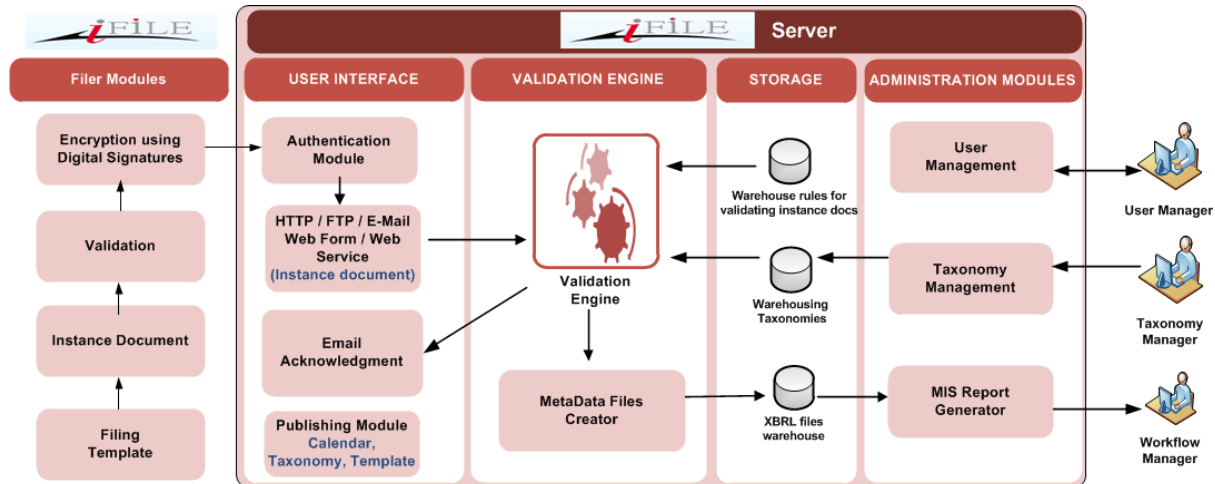
Fig1: IRIS iFILE Architecture

The Subsystems:

Subsystem 1: The Intelligent Spreadsheet

Subsystem 2: Web Applications Set

Subsystem 3: The XBRL Repository and XBRL Database

Subsystem 4: Data Rendering and reporting

Subsystem 1: Intelligent Spreadsheet (iFILE client)

IRIS iFile Excel: IRIS iFile creates the Intelligent Spreadsheet and Web forms to enable the users (the reporting entities) to generate Return reports in XBRL format. The intelligent spread sheet obviates the need to know XBRL by the reporting entity.

Template Generator

The Template Generator component of the "Intelligent Spreadsheet" is an MS Excel® Code Behind module. The module will be triggered when the reporting entity exercise the option of "Generate Template". The module will perform the following functions:

Version Checking:

The first step of the module will be to perform a version check. This is to ensure that the version of the Intelligent Spreadsheet is the latest version that is being used or if it is an older version, it should be valid. The version of the Intelligent Spreadsheet will change based on the change in the Return Taxonomy. The module will first attempt to automatically connect to a web service (hosted at MRFP and a part of the Web Application Set). This web service will take in an input of the "Version Number". Based

on the version number, it will check with the database if it is the latest version or not. If yes, it will return a positive response and if no, it will return the version validity.

The module will then check if the current date falls in the validity range, if it does not then it will prompt the user and ask the user to confirm if the application can go ahead and download the latest version.

If the user confirms, then the application will connect to a separate web service and download the latest version. Post download the installer would be auto updated to the latest version containing the taxonomy changes. The installer downloaded would contain multiple versions of the taxonomy, enabling user to select the respective taxonomy for each return to be processed. For a negative affirmation by the user, the application will provide the user with the URL, where he/she can login and download the latest   version.

If the module is unable to connect to the web automatically, it will prompt the user that it is unable to connect to the Net, and provide the URL from where the user will be able to check and download the latest version. The user will then be required to check the version details.

Template Generation:

The module will primarily use taxonomy files and xml files for creating the Return Template. The module will use the underlying iFile Engine to create a Return template from the Taxonomy files.

Data Validation Engine

The data validation engine will validate the data filled by the entity in the template. The validation will be done based on the taxonomy as well as custom business rules.

The validation errors if any will be displayed as a list, the user will have the option to print the errors in a file to view the errors and solve them.

The validation errors will be classified as "Basic Validation", "Calculation Validations" and "Formula Validations". The basic validations will involve validations which pertain to the properties in schema document of the taxonomy, data type mismatch for instance. The calculation validations will be arithmetic based on the calculation linkbase relationship validations. The formula validations include business rules, viz. logical operations, mandatory element check, comparison of value within a range, identifying data pattern etc. All kind of operations that cannot be built as a part of calculation linkbase can be included in the formula validations which would verify the data and generate valid and XBRL specification compliant output.

The Intelligent Spreadsheet will not allow proceeding to the next stage of instance document generation until all basic validations are cleared and / or all calculation validations are cleared before proceeding to the next stage of instance document generation, if MRFP requires it.

Client Application to accept XBRL/iXBRL instance document

Custom Application

Web Services / API
Instance document /Taxonomy

Error XML

Validation Engine

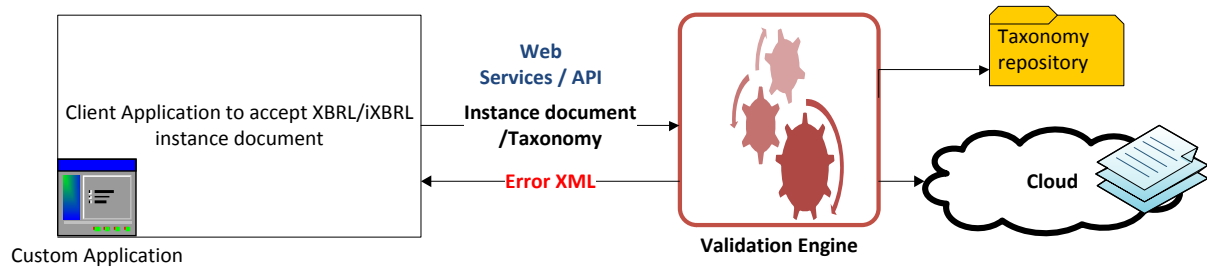Taxonomy repository

Cloud

Fig 2: Validation Engine

Instance Document Generator

On completion of every section and successful validations, the instance will be generated. The entities will be uploading this instance document to the submission portal.

The instance document generator will refer to the taxonomy for generation, and the instance document generated will refer to the taxonomy document using a URL on the MRFP end.

The instance document will also include the version number of the current system. This will be used by the web uploading module to verify if a valid version has been used for reporting.

Digital Signature & Encryption

The instance document generated will need to be digitally signed & encrypted using the entities' checker's private key. The digital signing can be done at two levels:

At the intelligent spreadsheet itself, wherein after the generation of the final instance document the module will prompt the user to digitally sign and encrypt the document. Alternately, the entity will also be provided with a standalone application that they can use to digitally sign the instance document. This is for the benefit of the entities that do not plan to use the Intelligent Spreadsheet for generating the instance documents but their own proprietary software.

Subsystem 2: Web Applications Set

1. **Submission Gateway**

The Submission Gateway is a portal application which does the following

      a.   Authentication Module

      b.   Taxonomy & Template management Module

      c.   Filing Calendar

      d.   Notification Module

Authentication Module:

The authentication module authenticates the different users. The users details could be in the iFile database or IRIS could connect to the AD/LDAP for user authentication and could use the iFile module for rights and role module. While IRIS has AD/LDAP connectors, for integration with proprietary user management applications IRIS will create a bespoke application.

Managing the various versions of the taxonomy & templates for Returns:

Any changes in the reporting elements will lead to modifications in the taxonomy. The system will keep a track of all the versions of the taxonomy used since the inception of this system. If a new version of taxonomy needs to be made available for the users then the MRFP user can upload the modified taxonomy and its details on the iFile servers. Versioning of taxonomy is simple and can be done by a portal application within iFile. Versioning requires the complete new set of taxonomy files as well as Meta data related to the validity period of the taxonomy.

Filing Calendar

The filing calendar allows the regulator for specifying the filing windows for different kind of disclosures and different kind of firms. Filings outside the filing windows are marked as late and recorded accordingly by MRFP.

Notification Module

The notification module is used to send out e-mail alerts to the entities. E-mail alerts are triggered for every identified operation in the system including filing of a disclosure, approval by regulator, validation errors etc.

2. User Management

Admin Module: User Management (Optional)

The MRFP users will be provided with an admin functionality, which will allow them with the following features:

Managing the Filers

The MRFP Administrator will first register the Filing Entity and create a "SUPER User" for that entity. The super user of that entity will in turn be allowed to create as many users as they want and assign them roles and responsibilities.
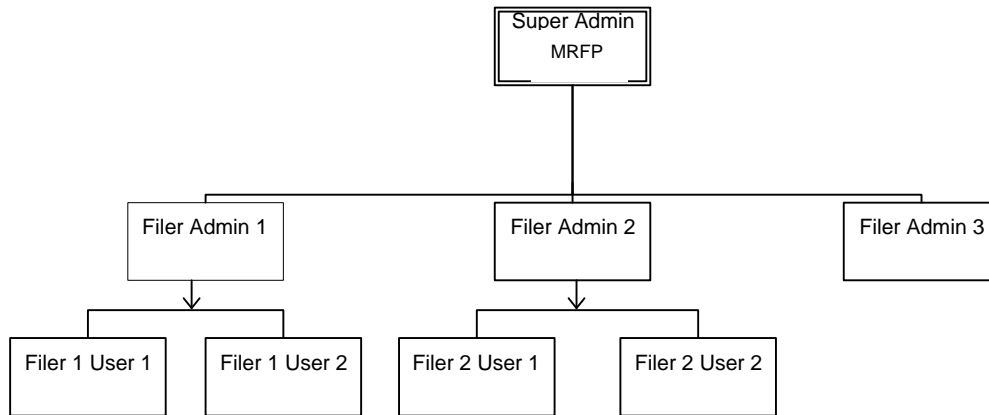
Fig3: User Management

Managing the users

Depending on the policy and privileges, a Platform Admin would be able to add organizations and create and modify the Super Users using this functionality. The super users of the regulators will be able to add organizations, Filer Super User of the organization, additional returns among functionality.

Each Filer super user will be able to create users within the organization and assign them roles and responsibility.

Filers (Reporting entities) Admin Module

Every reporting entity has a Super User. This Entity Super User has all the required rights to create additional users for respective organization. All additional users will need to be given explicit role and rights in the system.

3. Validation Engine

The same validation engine which runs in the intelligent spreadsheet also runs on the server side. All documents are checked through various types of validations to ensure conformance:

Taxonomy Validations

Basic validations, advanced validations and formula checks will form a part of the taxonomy validations.

The basic validations will involve validations, which pertain to the properties in schema document of the taxonomy, data type mismatch for instance. The advanced validations will be the arithmetic and formula validation as per the calculation and formula linkbase.

If the document fails in these validations an email will be sent to the provider with the details of the errors. Alternately, these details will also be available for the data provider to view on a web.

4. Instance Document Processor

The validated instance document will be stored in the XBRL File Repository. A scheduling application will parse this instance document and store the required elements and its values in the XBRL database (This is optional and will be done only if the data is to be put in a relational database). These elements will be used for faster report generation and advanced analytics.

Subsystem 3: Data Repository

XBRL File Repository

A file server will be maintained at the MRFP location, which will store all the taxonomy files (.xsd and .xml). It will also store all the instance documents uploaded by the filers. The repository, hosted on the MRFP servers will be divided into three sections:

1. The un-encrypted XBRL documents that will serve as the primary data source.

2. Signed XBRL documents filed by the filers, stored in the encrypted format for audit. (if applicable)

3. Instance documents, which failed through the validations, will be stored in this repository in a different folder for audit.

All these files will be frequently accessed by the web application components at the various stages of the processing.

XBRL Database

All the reported data elements and its values will be stored in this XBRL database. This will allow the reporting application for faster generation of the reports. Also allow for creating instance documents for reporting to individual data requestors with the elements they requested.

Subsystem 4: XBRL Data Rendering & Reporting

IRIS will provide its rendering tool, which will facilitate authorized users of the system to see the XBRL data in HTML in the format. There would be a facility to export the data into MS EXCEL® or PDF.

Standard Reports

MRFP will be able to see compliance report like filers, which have not submitted the returns yet, or filers which have done late submission etc. through this engine. The following kinds of reports are available to the users:

1) Pending Submission Report: This report will display a list of all the filers which have not yet submitted the reports to MRFP. These can be filtered or sorted based on pre-defined criteria

2) Uploaded Report: This report will display a list of all the filers which have submitted the reports into the MRFP repository after successful validation against each of the return.

3) Rejected Report: This report will display a list of filers that have submitted the reports into the MRFP repository after successful validation but were rejected by MRFP User.

4) Validation Failure Report: This report will display a list of filers that have submitted the reports into the MRFP repository but were marked as invalid by the Validator scheduler against each of the return.

5) My Filing Status: Every filer super user will have a link to view the status of its own filings.

MIS Reporting

The system will log all the activities performed on within the application. This data can be made visible to MRFP users through the MIS reports. The MRFP user will be able to view these MIS reports on the web page using this module. Each agency on the platform will be able to see the reports based on the data that is being submitted to them.

System will provide the following Audit logs:

- All user actions will be logged in the system
- System would support recording, viewing, and printing of access logs. E.g. each successful and unsuccessful login by date and time
- System would support recording, viewing, and printing of all kinds of update on data or service settings
- System would support recording, viewing, and printing Audit logs of Read actions for critical data
- Logs will be kept based on defined parameters.
- Logs can be encrypted, compressed and backed up

Report Publisher

Any MRFP user using this publishing module can view the instance document submitted by the filers. It will display the entire report on the web. The MRFP users would be able to view their validated instance documents as well as those instance documents, which failed the validations along with error report.
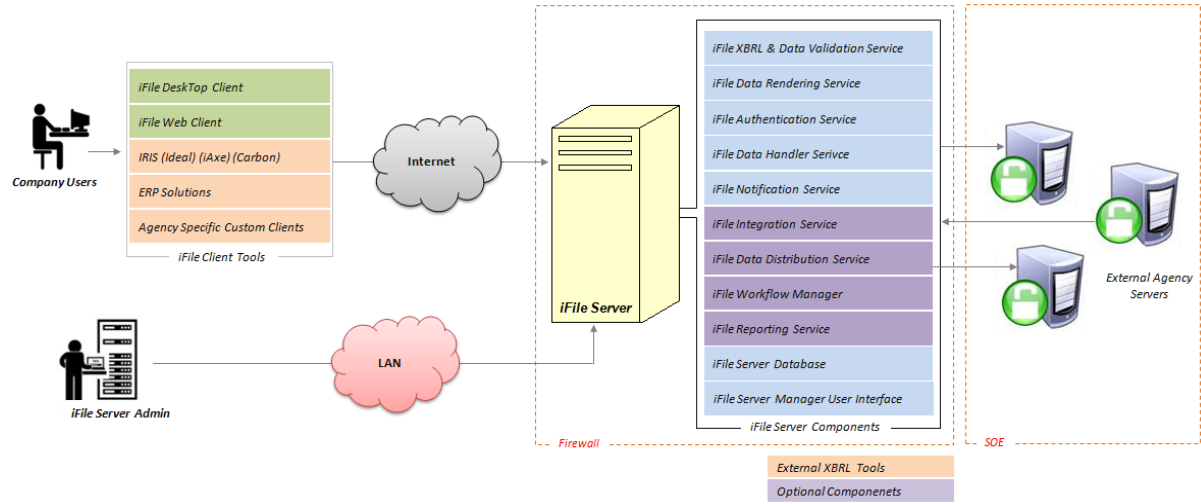
Fig2: Application and component overview