White Paper

On

Telecom Industry

Submitted by –

Acyutah Technologies Pvt. Ltd.

Registered Office: Suite 07, H-15, Sector-63, Noida-201301, INDIA

Ph.: +91.120.4916205

Website: www.acyutah.com , www.finedocs.com

Index

Executive Summary

Deregulation, mergers and acquisitions, and intense competition have thrown up multi-faceted challenges for the Telecom communities. To sustain themselves in the highly competitive market, the players need to invest in infrastructure, improve quality of service, network efficiency and billing solutions. Business Process Management (BPM) shall play an important role in this.

Telecommunications organizations today are facing the daunting challenge of an industry that is in constant flux. Not only are there pressures from cost containment, reduced pricing and strict regulation, but attracting customers and preventing churn has never been more difficult. Several major telecommunications leaders have adopted BPM technology to gain control of their processes, reduce revenue leakage, improve customer service, and realize significant ROI in a short timeframe at is in constant flux.

There are two key success factors in the telecommunications industry: operational efficiency (for lower costs) and the ability to quickly offer new services (to leverage new technology and satisfy fickle consumers.) Achieving these goals depends on service excellence—the ability to rapidly deploy new products and services to gain a competitive edge in an ever-changing environment, demonstrate superior quality in the management of third-party content providers and offer an exceptional lifecycle experience.

To excel in these critical areas service providers must streamline their back-office processes through automation and standardization, improve visibility into key performance indicators, and eliminate barriers to change in their IT infrastructure. A process-centric approach to telecommunications can give operators the platform and tools they need to do all of these things.

Telecom Industry Future Trends

Telecom service provider support systems hold the key to their ability in delivering differentiated services. Today, these support systems do not meet the requirements of service providers. The lack of process management facilities results, inefficient and inflexibility in the Business processes. Further, there are inherent limitations to point-to-point integration of support systems, given the dynamic environment and changing requirements. To address these drawbacks, Tele-Management Forum is working on New Generation Operation Support Systems (NGOSS), a set of specifications for building the next generation of telecom service provider support systems. Emerging technologies like Web Services and Business Process Management (BPM) can play key roles in implementation of NGOSS.

Insufficiency of Existing Support Systems

Operation Support Systems (OSS) of the telecom service providers have to support the above mentioned and other emerging process management needs. Existing OSS are inadequate in satisfying the twin requirements of automating business processes and facilitating the quick and easy introduction of new services. To understand this, let us consider the business processes for order processing and provisioning by service providers. The sequence of activities involved in this is, customer inquiry, subsequent order for service, configuration of the service, installation, and completion of the request. This process has to interact with other processes including service assurance, customer care, and billing. Depending on the service provider, multiple scenarios in this process are possible:

- Interfaces may be required with other service providers or network operators when joint service arrangements are considered.
- Depending upon specific service provider's operations, the sales team may sometimes place orders for the customer. Customers may directly place orders through the order management system.
- For certain simple services that have pre-assigned service capacities, the network provisioning process may need to be bypassed.

In any service provider organization, there is several such business processes involved, and it is often necessary to modify these processes. Business users require the OSS to provide automation in business process execution and ability to easily modify the processes. The existing systems, however, are incapable of meeting these requirements.

Towards a solution: New Generation Operations Support Systems (NGOSS)

Existing OSS cannot meet the demands of service providers. In this regard, the Tele-Management Forum (TM Forum), a group of major industry players, including service providers, network equipment suppliers, software solution suppliers, and customers of communication services, has started an initiative for creating NGOSS. The initiative will deliver a set of guidelines and specifications for the telecom industry to build software in a more structured way. NGOSS includes a business process framework that defines the business processes in an idealized service provider environment. NGOSS aims to provide a blueprint for scalable and flexible infrastructure required by service providers for deploying new services rapidly. Scalability and flexibility can be achieved by creating required business processes by stringing together off-the-shelf components with contract-defined interfaces in a distributed environment. Formal process definition, process repositories, and process engines are necessary to do this.

Process management is the key to implement NGOSS, and the separation of business processes from software components is one of the core principles underlying it. NGOSS recommends architecture based on distributed computing and loose coupling of components to implement process management. Emerging technologies like Web Services and Business Process Management (BPM) can play a key role in the implementation of NGOSS. Web Services can be seen as one of the building blocks of a business process. A business process can be composed of any number of activities implemented as Web Services. BPM makes it possible to aggregate activities, determine state, audit, and manage service-level agreements. Complementarily, Web services offer a simple, elegant and cost-effective way for BPM to access existing infrastructure. Similarly, a process model can be published as a Web Service.

BPM enables the coordination of actions of different human actors and OSS systems with the information available in various systems. A BPM system can provide the necessary process execution environment for process flows described in an executable process language. A process repository can be used to store pre-defined flows for common processes like order entry, provisioning, billing, rating, payment processing, and customer problem handling.

Business Process Management Solution For:-

1. Customer Acquisition
2. Order Management
3. Customer Query Response System
4. EPOS Integration

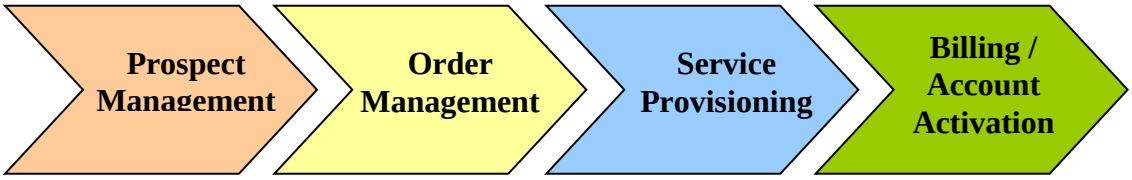
1. Customer Acquisition

How do you 'Manage' the Prospect to Customer Acquisition process to ensure End to End control of:-

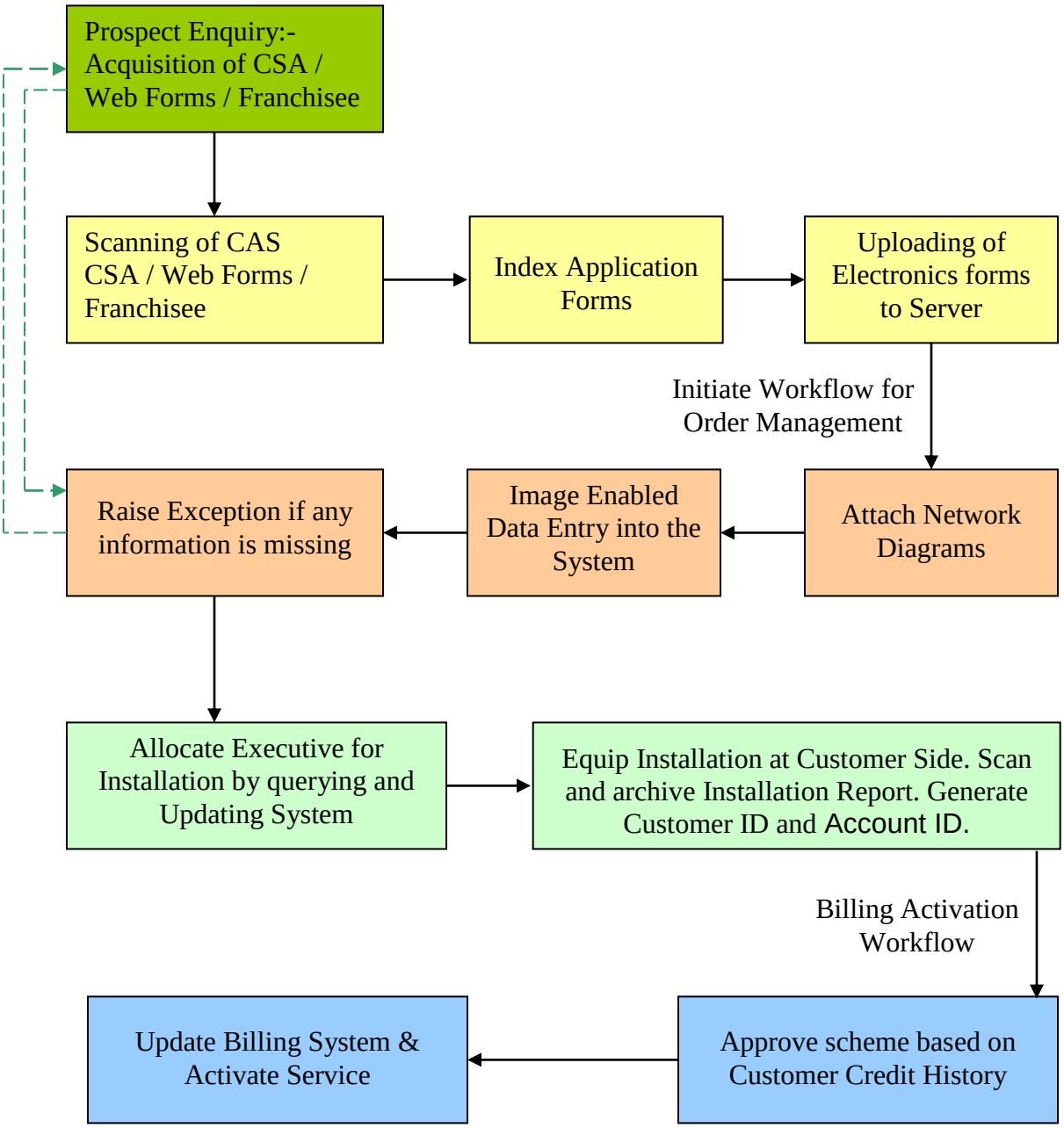
- Prospect Enquiry, through CSA / through Franchisee.
- Receipt and Collation of Prospect Application forms.
- Prospect Validation Service Activation.
- Service Provisioning at Customer premises

Acyutah's BPM System - **FineFlow** is a production workflow that is especially been developed taking into consideration the needs of Service Provider 'Back offices', with large transaction volumes, a host of different customer offerings and processes like Customer Acquisition, Franchisee Creation, Order Management, Workforce Management and Trouble Ticketing. **FineFlow** provides workflow functionality and the means to track the Turn around Times (TATs) to these processes from initiation to completion and across the different systems involved like backend provisioning, mediation, Billing and CRM systems.

The complete customer acquisition process goes as follows:-



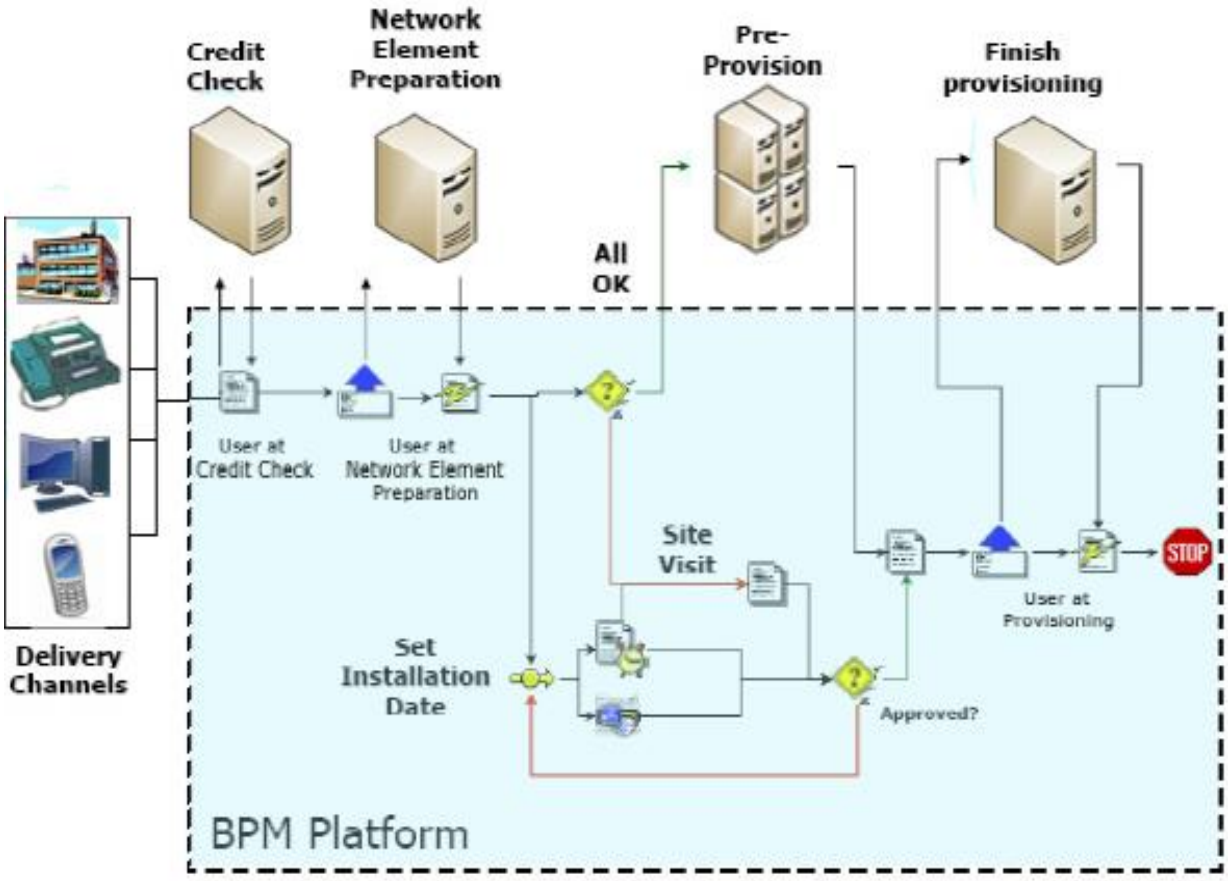
The complete process flow of Customer acquisition is as follows:-



2. Order Management

When a customer makes a request for service from a CSP, the Fulfilment process manages that request and should ensure that the requested products and services are delivered correctly and in a timely manner, through the decomposition of the order into atomic products, services and resources. Successful end-to-end management of the fulfillment process results in satisfied customers. This is crucial as it represents the customer's most direct contact with the CSP and colors the customer's opinion of the organisation. Despite the importance of this process, it is rare to find a CSP who has end-to-end direct process management. Process automation may have been implemented at certain points in the process (most commonly in the front office CRM system and in the back office provisioning process), but not many CSPs can go to a system and discover the exact status of each order in the organisation. This means that the processes are run by multiple systems and people. This often results in a lack of business responsiveness and customer service that leaves a lot to be desired. Moreover, from a business performance measurement perspective the CSP is not able to get a holistic view of the past performance of the process from which to extrapolate future changes.

BPM is the ideal platform on which the end-to-end management of the fulfilment process can be based. Those CSPs who have started on this route are enjoying significant efficiencies and vastly improved customer service. Furthermore, management of those organisations can be performed in the context of exact business performance metrics from the execution of the process in a BPM environment.



The Diagram Illustrates the Efficiency of Having BPM tool / Workflow for Customer Acquisition wherein site visit & workforce management is required, also Integration with Legacy Applications.

3. Customer Query Response System

Currently in many of the telecom organizations all the activities of Customer Query are managed by their core systems. There all queried come through:-

- SMS
- Emails
- White Mails
- Fax

First it comes in core System then it routs to CSR's of different locations manually. This whole manual activity results:

- Time Consuming
- Possibility of Misplacement of Mails
- Less productivity of CSR
- Dissatisfied Customers

In most of the Telecom Organizations above 95% of communication happened through Emails and SMS. Most of the telecom organizations are getting the emails / SMS of following types:-

- Request
- Query
- Complaint

The Process of distribution of all these Requests, Queries & Complaints which is being followed by these telecom organizations are:

- Manual Segregation of Mails.
- Manual distribution of Mails.
- No records of email communications

All these manual interventions results in:-

- Time Consuming
- Less Effective
- Tracking Problem
- Duplication of Work
- Difficulty in finding slack point.
- Dissatisfied Customer

Acyutah's System for Customer Query Resolution is powered by **FineFlow (BPM)** tightly integrated with **FineDocs (DMS)** allows the Customer Care Executives to retrieve customer related documents while the customer is still holding on.

The Customer Care department today spends majority of its time in searching through the Customer Files and resolving the Customer issues either online or through the mails. Not only can all the customer documents can be scanned and archived into FineDocs, Acyutah's Document Management System, but all the related correspondence through physical letters or e-mails can also be linked and archived in the same. Thus the day-to-day Customer queries can be resolved through searching for the Client records in the FineDocs Environment and resolving it online.

Certain Queries need approval from authorities and thus documents need to move through the Hierarchy. These processes can be automated through the use of FineDocs Adhoc workflow. This functionality provides the organization to collaboratively work on the Customer Queries and resolve them with minimum turnaround times.

Online tracking and querying on these workflows allows Customer care executives to be more responsive.

Acyutah's Solution will enable the Telecom Organizations to:-

- Integrated environment with their core system
- Automatically fetching out the emails from Core System on some predefines business rules.
- Segregating the Emails received from customers on the basses of Unique Identifier, Query, Request and Complaint.
- Uploading the mails automatically in respective work queue.
- Customer Service Representative can pick the mails from work queue on the bases of First In First Out logic and even drop the mail back by giving appropriate reason.
- Customer Service Representative can communicate with Customer after resolving the mail or in between.
- History of all the communication with the customer will be stored and can be fetched on the basses of Unique Identifier, or other parameter given.
- Gives the Auto reminders for pending work items in queue.
- Automatically escalating the case of no action with a time frame in to next level.
- Automatically diverting the work items in Round Robin & Least Resource.
- Gives the auto acknowledgement to Customer by Email on the basis of Unique Identifier mentioned in the mail.

Business Rules we gives:

- Different rights will be available to CSR and Supervisor. So that CSR perform the actions on mails like: transfer, reply, forward, view, compose, etc and Supervisor will able to preview, assign, delete, re queue, reroute etc.

- All users will have a fixed time frame to achieve particular task.

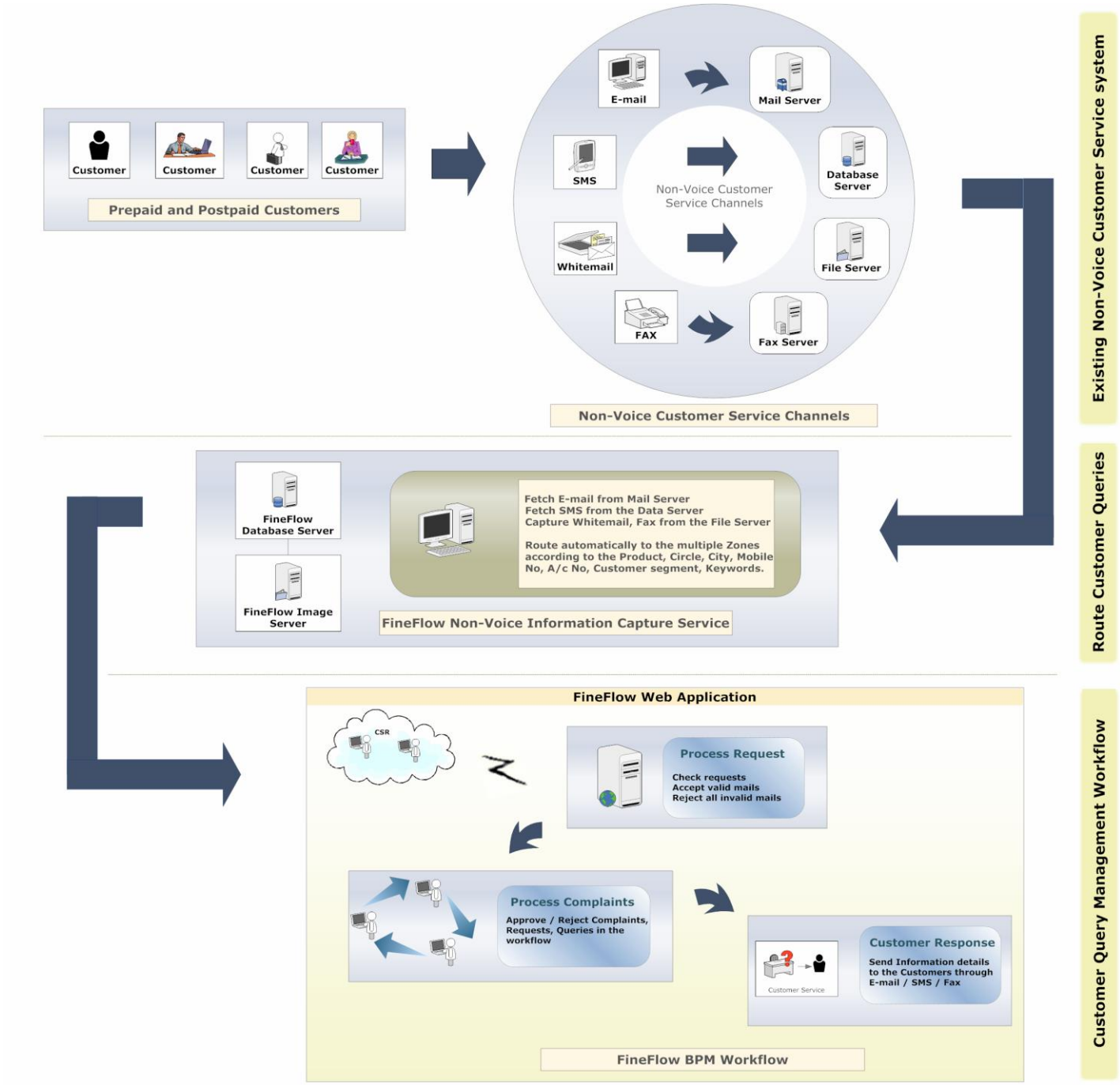
- Strong Reporting facilities will be available to identify the slack and to improve efficiency

- We can define the Task Period for any action perform:
    - Today
    - This Week
    - From Date – To Date

- Automatically Acknowledgement will be sent to Customer by Email / SMS / White Mail / Fax.

    - Depends on Unique Identifier (Account ID, Mobile Number etc.) motioned in the mail.

Acyutah's Solution Architecture



4. EPOS Integration

Telecoms use the EPOS (Electronic Point of Sales) software system to enter fresh Customer Application Forms [CAF], verify them and activate the connections for the approved CAFs. The rejected CAFs are returned to the source. This workflow based application is deployed at the point of scales centers across the circle. The EPOS applications are integrated with the core system like billing, service provisioning.

Document Management needs to be integrated with the existing **EPOS** system. The **EPOS** user should be able to invoke a customized DM web desktop that will be used to scan and view documents related to a CAF in DMS. For example, while entering a fresh CAF in EPOS the user should be able scan the CAF, Identity proof and residential proof and upload these to the DM database.

Acyutah Solution

Acyutah Image enabling integrates EPOS system with the Acyutah **FineDocs** system.

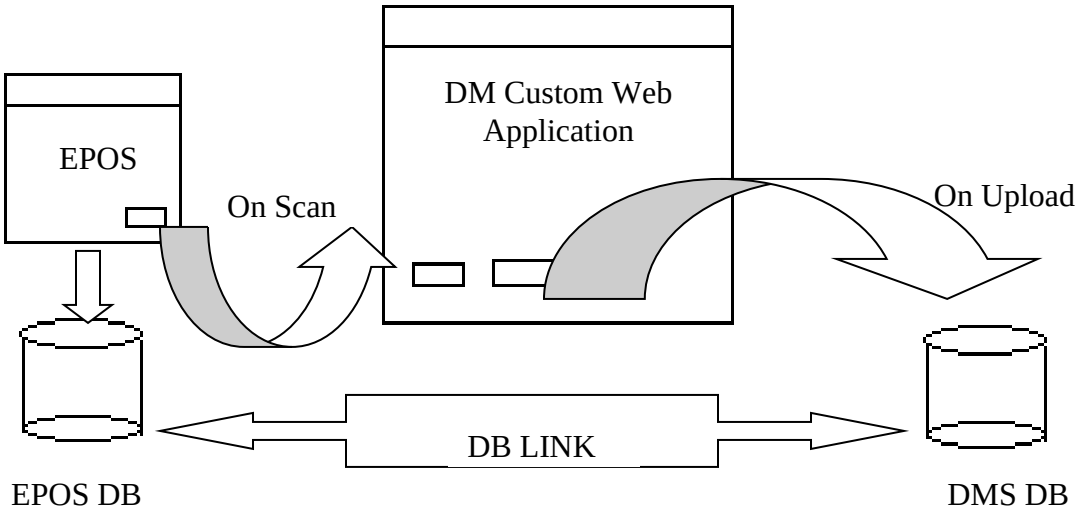
Acyutah integrates any **EPOS** solution with a Imaging based Document management cum file movement system using standard APIs/connectors so that the activation of connections along with retrieval of Files / Documents of Subscriber and their online display can be instant.

The following steps will be involved in the complete integration,

- As soon as a customer submits his / her application at the customer care counter, the information will be fed into the EPOS application and there will be a Scan button onto the application. Using the scan application, operator will digitize the paper-based documents (application and supporting documents). These documents would be saved into the document management system. The documents would be indexed automatically. The parameters would be passed from the EPOS that gets associated to the Unique ID generated EPOS. The operator can initiate the file for approval.
- Officer (activation) will log into **EPOS** and corresponding to every application details, he /she would be able to see the relevant file containing images of application form and supporting documents along with Note sheet. While viewing the transaction the commercial officer would click on a button “Show File” and the all the documents would be opened in a file view where the officer can attached notes, linked notes with the notes or link notes with other files. If the notes were linked with other file, the second file would also get associated with the current transaction (customer records in **EPOS**.
- Officer will be able to put noting on the Note sheet and forward this to next stage for activation of the new connection.

- Similarly for all users of EPOS application, the customer file can be retrieved as and when required based on the access rights.
- The Document Management also has a central database so that if authorized user logged into the document management system he/she should be able to view all the files. However if officer user logs in he should be able to view the files that are specific to his working from **EPOS** front end.
- The files (Customer Records) opened from the **EPOS** will be opened in a browser.

System Architecture



Business Benefits

- Reduced paper requirements as the Customer Documents can be maintained online in the form of scanned documents.
- Centralized system, which helps the documents to be maintained at the central location and distributed throughout the organization.
- Faster customer query resolution resulting in better customer satisfaction.
- Immediate availability of the Documents, resulting in better customer care and accounts receivables.
- Reduced space requirement as previous paper bills need not be stored in front office
- Five-fold productivity increase of Customer Care Personal resulting in ability to handle many more requests.
- No load on your business accounting system
- By integrating IVR, 24 hour automated service.
- Online Analysis and Search of Archived records save valuable executive time.