Thermal Power
Moving to the Cloud

Coal shortage and related bottlenecks have come in the way of achieving power generation targets in the country. Time has indeed come for setting up coal regulator like in the case of electricity, telecom, or banking. A cloud-based integrated software solution platform could be a powerful tool to help achieve much needed process efficiency, transparency, and contract and regulatory compliance...

BY RAJEEV SINGH

Coal shortage and related bottlenecks have come in the way of achieving power generation targets in the country. This is said to be one of the main reasons why euphoria around private sector led power generation growth, including the much anticipated UMPPs, has fast evaporated, and the industry is feeling the heat instead of helping overcome it.

There are many dimensions to the coal shortage related problems that the power sector in India is facing - including the domestic coal production shortage, transportation logistics challenges, rising international prices for coal and the recent Indonesian legislation regarding coal export. One of the core issues, however, is regarding the process efficiency and transparency required to create the level playing field for the private sector when it comes to coal blocks and coal linkage, and fulfillment of Fuel Supply Agreement by coal sector PSU. Recent CAG draft report, and the non-performance on UMPP are reminders of why transparency as well as performance regarding coal block allotments and fuel linkages is critical for ensuring a level playing field and for creating a healthy, competitive and efficient private sector in power generation. In a recent Policy Watch released by CII, Mr. Arup Roy Chowdhary, the CMD of NTPC, has suggested that it is time the country has a coal regulator – a very useful suggestion indeed.

This article discusses, at a high level, how a solution framework using Cloud Computing can provide the much needed visibility, efficiency and transparency. A cloud based integrated software solution platform will be a powerful tool to help achieve much needed process efficiency, transparency, and contract and regulatory compliance. The article explains how.
A SOLUTION FRAMEWORK FOR TRANSPARENCY

It will be very useful if the government can look at the core processes involved, such as:
- Coal block auction
- Coal blocks, coal linkages for IPPs, including UMPPs
- Mining approval processes
- Fuel supply agreements and coal linkage performance tracking (Mine to Plant)
- Exception handling and timely escalation
- Analysis and review for policy refinements/review

AUCTIONING COAL BLOCKS OVER THE CLOUD

Ministry of coal can bring the much needed transparency in the process by publishing all the details regarding coal blocks. It is alleged that the difficulty begins with selective sharing of information (causing information arbitrage). The information required for a private sector investor to take a decision to invest in a coal asset has to be made available. From the information technology standpoint, it is quite easy to achieve. All the pertinent information has to be made available on a Cloud Computing Platform where people seeking information can go through a registration process based on the required verifications necessary, and then can subscribe to the information as a service. A powerful analytical solution together with a GIS platform can be put together to provide the much needed depth of information (both figuratively and literally!). (after all, in today’s time, one can search on internet and social networking sites about a restaurant, with people likes and dislikes about it).

The e-Auction is anyway an accepted reality. Once the government is clear on policy framework, a suitable e-Auction System can be offered as a service on the cloud computing platform.

DOMESTIC COAL FOR UMPP

Coal block award to UMPP must also be made transparent. Once the coal block related information processes are architected well and deployed on cloud, those bidding for UMPP can avail of the required information as a service. What is really important is the architecture of such a system – both functional and technical architectures. This will ensure that there will always be a “single source of truth”. A Cloud Architecture will make it possible to collaborate across ministries through web services. E.g. once a coal block is assigned to the successful UMPP bidder, the required details of the coal block can be sought by MoEF for clearances and approval and a robust, cloud based workflow can very transparently track the service level performance of an integrated process.

Similar process can take care of coal block award for any other purposes, under any other new policies/schemes that come up later.

CLEARANCES AND APPROVAL FOR MINING

Delays in clearances and approvals have been blamed for delays in a number of projects in this country. Notwithstanding the vested interests, the technology can make the processes so transparent that service levels from the concerned ministries will have to improve. Each clearance and approval process is a workflow. With a strong cloud-based workflow that can collaborate across the systems, the process performance will become very transparent. It won’t be possible to hide process bottlenecks. With a robust cloud based architecture and web-services based process interface across systems will eliminate the duplications and redundancies.

Each clearance and approval process, along with their interdependencies can be neatly implemented as workflows. It can provide all the exceptions and alerts proactively and it can manage the escalations very well.

FUEL SUPPLY AGREEMENTS AND ITS COMPLIANCE

It will be important that IPPs also embrace transparency, and declare their Fuel requirement plans based on generation plans. In case of linkages, Fuel Supply Agreements will have to be transparent, and hence have to be part of overall information architecture.

Performance of each Fuel Supply Agreement can be tracked, if a powerful logistics solution based on cloud is adopted. Transporting linkage coal to the plants has also been a challenge. A centralized cloud based supply chain solution linking Indian Railways as well as road transport can provide visibility on the coal supply chain. Such a system can be offered on Cloud Computing platform on subscription basis while ensuring the required data security. If such a unified, standard system is offered on Cloud, it makes it very

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easy for everyone to track and trace the coal from source to destination. This system will have to interface with whatever CRIS may already have for railway rake movement tracking. Road transport tracking is already a norm (vehicle tracking solution can be suitably enhanced to provided additional parameters to be tracked). It has been said earlier also, and it is apparent again, that collaboration using web-services will the best way to ensure that the required automation and smooth workflow helps achieve the much needed transparency.

**EXCEPTION HANDLING AND TIMELY ESCALATION**

With processes interconnected using a robust cloud computing architecture, it will not be too difficult to define and trap exceptions, or to automate escalations.

**ANALYSIS, REVIEW AND POLICY REFINEMENTS**

If the processes are interconnected with a unified data model available on cloud, the tasks of information analysis and review will become much easier. Often our policy refinements and changes are responses to disasters – whether it is the case of policy environment in Telecom or Aviation or Power Sector. Let the policy be framed out of fact based analysis and review. It is very much possible.

**SUMMING UP**

Cloud Computing presents an excellent opportunity to bring together the silos and to construct and execute the business process on cloud to provide a seamless solution to multiple stakeholders as subscribers. There are enough proof points across the world for achieving results using cloud-based applications. It is entirely possible to put together all the business processes pertaining to coal (for the stakeholders like Power Plant Investors and Lenders, Developers and Owners, Coal Ministry, Power Ministries, States) using a powerful cloud computing architecture. Implementing this will surely call for statesmanship and has to devoid of turf-wars that one sees so often among the ministries.

The time has indeed come for us to think of coal regulator like in the case of Electricity, Telecom, or Banking. Cloud computing technology can deliver transaction processing, analytical and compliance tracking solution in an integrated manner to meet the information needs of all stakeholders concerned.

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