



Cloud Computing in Manufacturing and Measurement of Its Effectivity

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I. INTRODUCTION OF CLOUD COMPUTING

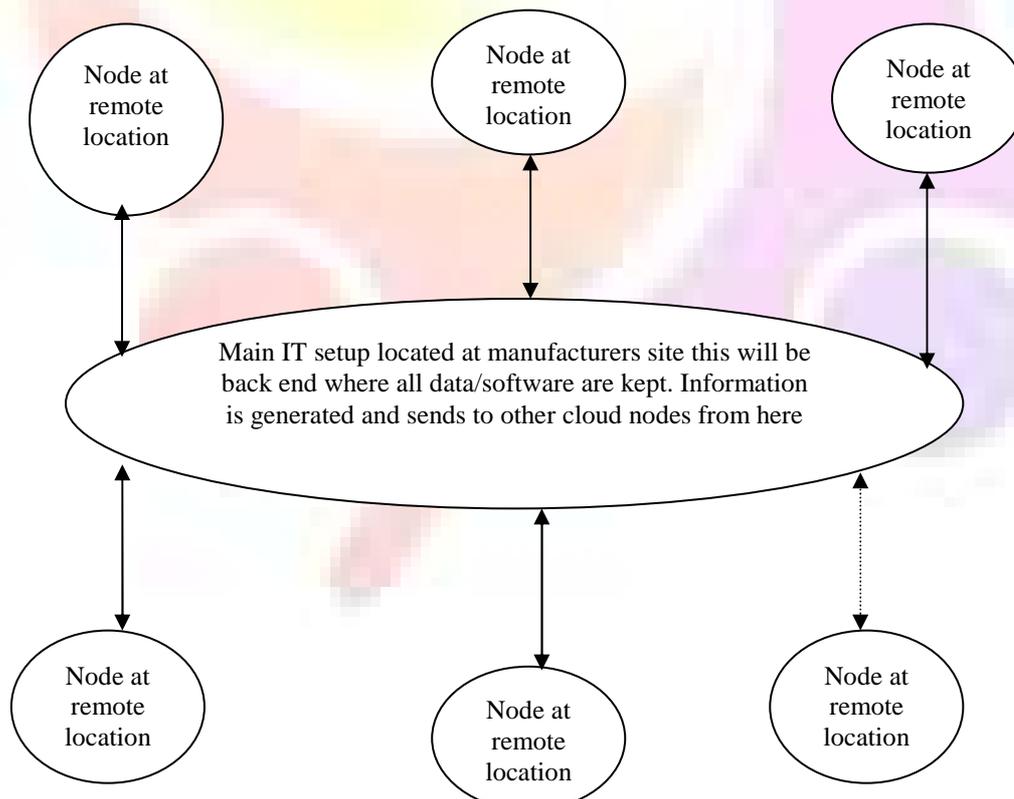
A cloud refers to a distinct IT environment that is designed for the purpose of remotely provisioning scalable and measured IT resources. The term originated as a metaphor for the Internet which is, in essence, a network of networks providing remote access to a set of decentralized IT resources. Prior to cloud computing becoming its own formalized IT industry segment, the symbol of a cloud was commonly used to represent the Internet in a variety of specifications and mainstream documentation of Web-based architectures. This same symbol is now used to specifically represent the boundary of a cloud environment which has a finite boundary.

II. VERSIONS OF CLOUD

Two of the more popular versions of cloud offerings are Software-as-a-Service (SaaS) and Infrastructure-as-a-Service (IaaS). With SaaS, the cloud service provider hosts your enterprise applications and associated data on its servers and storage systems. Users gain access to SaaS applications using a Web browser. And your company would typically pay a fee per user per month. With IaaS, the provider offers virtual machines, physical servers, storage, switching, and connectivity resources to run your enterprise applications on a pay-as-you-go basis.

III. PICTURE SHOWING HOW CONNECTIONS ARE MADE TO MAKE A CLOUD

Arrows indicate to and fro movement of data and information, connected thru internet Node consists of laptop/workstation, internet connectivity and SaaS facility provided by cloud service provider.





This has distinct characteristics that differentiate it from traditional hosting. It is sold on demand, typically by the minute or the hour; it is elastic -- which means that a user can have as much or as little of a service as they want at any given time; and the service is fully managed by the provider (the consumer needs nothing but a personal computer and Internet access).

Public cloud sells services to anyone on the Internet. A **Private cloud** is a proprietary network that supplies hosted services to a limited number of people. When a service provider uses public cloud resources to create their private cloud, the result is called a virtual private cloud. Private or public, the goal of cloud computing is to provide easy, scalable access to computing resources and IT services.

IV. APPROACH TOWARDS USING CLOUD SERVICE

- **Assessment:** Detailed assessment of existing Infrastructure.
- **Identify Pain Points:** Identify pain points and challenges in existing Infrastructure.
- **Security Audit:** Identify any security related concerns.
- **Choosing the Right Architecture:** Choosing the right cloud architecture as per customer requirements, fitting seamlessly into their current IT landscape be it Private, Public or Hybrid model.
- **Cloud Adoption Strategy Designing:** Designing the strategy with a phased approach to implement the cloud so that the migration and integration happens seamlessly without any issues.
- **Cloud Deployment:** We will deploy, migrate and integrate your workloads, applications onto the cloud
- **Disaster Recovery:** Why spend huge chunks of cash on building datacenters for DR when you don't require it on daily basis. Disasters don't happen every day; our job is to make sure your business continuity is maintained in case any disaster strikes your organization. By using our backup services combined with public cloud offerings from Amazon Web Services and Windows Azure, you can have an on demand DR setup ready without with minimum time possible. Duplicated, encrypted and compressed backup at the block level is replicated in order to efficiently use the bandwidth and storage constraints.

V. CONSUMER INDUSTRY

India is a consumer driven market, with consumer spending in the country projected to more than double by 2025. These days, the Indian consumer segment, broadly categorized into urban and rural markets, is attracting marketers from and across the globe.

VI. ORDER FULFILLMENT PROCESS

Strategy	Characteristics	Application Situations
Make-To-Order (MTO)	Production is triggered by customer orders.	High customization pressure but low responsiveness.
Assembly-To-Order (ATO)	Final assembly is order-driven, but the component parts are forecast-driven and built to stock.	High customization pressure, high responsiveness, and products with late differentiation.
Make-to-Stock (MTS)	Production is triggered by inventory replenishment points.	Low customization pressure.

VII. ORDER FULFILLMENT CLOUD PROCESS

Cloud-based strategies give these companies the chance to bring their own innate intelligence and knowledge into every sales situation. While on-premise systems could also do this, cloud-based systems were quicker to roll out, easier to customize and showed potential to increase adoption rates across resellers.

1. Capturing and applying company-wide intelligence and knowledge through the use of analytics, business intelligence (BI), and rules engines. For the many manufacturers who rely on build-to-order, configure-to-order and engineer-to-order strategies as a core part of their business models, using cloud-based platforms to capture knowledge and manage rules is accelerating. A key part of this area is mobility support for analytics, BI and rules engine reporting and analysis.
2. Among the manufacturers, those in high tech are the most advanced in this area, often implementing Vendor Managed Inventory (VMI) and demand management applications that deliver real-time order status and forecasts.



3. From simplistic services integration on iPhones to the full implementation of voice-activated controls including emergency assistance in the latest luxury cars, adding in services integrated to the cloud is redefining the competitive landscape of industries today. Revising a product or launching a new product generation with embedded services can mitigate price wars, which is why many manufacturers are pursuing this strategy today.
4. Accelerating new product development and introduction strategies to attain time-to-market objectives. Using cloud-based platforms in high tech manufacturing is growing today as time-to-market constraints are requiring greater collaboration earlier in design cycles.
5. Dashboards report back the status by each rep and for sales managers, the profitability of each deal.
6. Using cloud-based marketing automation applications to plan, execute and most important, track results of every campaign. Marketing is under a microscope in many manufacturers today, as marketing automation applications have promised to deliver exceptional results and many manufacturers are still struggling to align their internal content, strategies and ability to execute with the potential these systems promise.
7. Automating customer service, support and common order status inquiries online, integrating these systems to distributed order management, pricing, and content management platforms. Manufacturing industries are at varying levels of adoption when it comes to automating self-service. The cost and time advantages in high tech are the highest levels of adoption I've seen in visiting manufacturers however.
8. Increasing reliance on two-tier ERP strategies to gain greater efficiencies in material planning, supplier management and reduce logistics costs.
9. Reliance on cloud-based Human Resource Management (HRM) systems to unify all manufacturing locations globally.
10. Bottom Line: Using cloud-based systems to streamline key areas of their business, manufacturers are freeing up more time to invest in new products and selling more.

This aspect should be as the first one because business starts from here and is the main enabler for continuity of the same. Order may be actual sales order or response to demand forecasting. Measurement refers of Customer orders fulfillment. This measurement has direct relevance to forecasting, which is taken as a separate measure. There is some time gap between orders receiving and order delivery. Here one can take such order fulfillment for every product or services market segment wise. Since we are talking about ISCM we have take this measurement for a company. Since the business is always translated into cash, summation of all such orders both orders received and orders delivered is taken for all products and services.

VIII. CONCLUSION

Using cloud services can be seen whether it is beneficial or not by monitoring the measurement suggested. Characteristic of this measurement is, it involves all businesses like purchasing of raw materials, storing production, warehousing and delivery. Perhaps, it can used to compare direct investment made for cloud service sales realization and market expansion. Another worth mentioning point is that, investment for cloud services may be made in phases or discontinues services in some areas. COF, defined earlier can be made for different market segments, if needed and cloud services are accordingly.

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