

ON-PREMISE VS. CLOUD BASED TIME-ATTENDANCE SOLUTION



INTRODUCTION:

Today most of the manual day-to-day process either personal or professional is being replaced with technology. Technology is automating manual tasks, saving time of end-user. A single click can do lot many things from switching on your air conditioners to authenticating yourself in high-risk security areas. Augmented reality and Internet of things are overshadowing physical process. But, with technology advancing there is rise in terms of threats, breaches and human risk. We are in a situation whereby we compulsory need to choose technology as part of daily routine, but at the same time choosing right technology is of utmost priority. Talking about the same, the biggest dilemma being considered today with rise in cloud based solutions is whether one should opt for such technologies or should rely on existing On-premise solution for their time attendance applications, HRMS or payroll. These applications are important for organization from productivity point of view as the system provide employee-wise attendance data, reduce cumbersome HR tasks and improves efficiency. This whitepaper gives you insights of pros and cons associated with both platform and gives you clear picture of what's right for your organization.

ON-PREMISE SOLUTIONS:







On-premise solutions are located within the physical confines of an organization. This stat that the solutions are hosted in company's data center and data is handled internally by the organization. These are conventional solutions designed for organizations where safety of data is of utmost importance. Organizations may totally control the systems which include maintenance in terms of firewalls and antivirus, issues, upgrades and patches. Considering employee's data in terms of time-attendance and payroll solutions, every single data lies within the organization. Data security is one of the reasons for organizations choosing on-premise over other SaaS models available in markets. However, On-premise model requires huge investments with below considerations.

- Longer implementations
- IT resource dependent
- Expensive upgrades
- Large upfront investment
- Infrastructure Development

“ According to datacenterknowledge.com, Significant portion of the data breaches are in on-premise systems due to employees with potentially malevolent intentions”. ”

Problems with On-premise Solutions:

Traditionally, organizations opted for On-premise or rather referred as On-prem solutions. But, with rise in theft and security risk they started looking out for alternatives. Main problems faced by On-premise solutions are as follows:

-  Longer implementation time
-  Large upfront cost
-  IT resource dependent
-  Maintenance cost
-  Expensive upgrades
-  In-house security

Longer implementation time: Running an application like organization's time-attendance, payroll or CRM requires backend implementation in terms of server, database setup, firewall and antivirus setup, etc. This setup consumes time of customer with thorough monitoring by IT personal.

Expensive customizations: Since on-premise solutions are within the organizations, it becomes sole responsibility of the organization to customize the application as per their need. This results into huge investment.

IT resource dependent: As discussed earlier on-premise solution includes server maintenance, firewall, database, etc. and that too with utmost upgraded versions. This requires best IT resource. It comes with a cost which needs to be beard by organization.

Expensive Upgrades: Once you buy application like time-attendance and host it on-premise then the application comes with specific version. But, in future if you tend to upgrade then you need to pay for that required updates which acts as an added cost to already invested model.

Large upfront cost: On-premise is a combination of servers, database, firewall, antivirus, applications and other technological advancements. Acquiring these technologies involve large upfront costs while setting up an on-premise solution.

Maintenance Cost: On-premise solutions require advanced technologies in terms of servers, database and security. Hence the overall maintenance cost increases.

In-house Security: According to Garter, most of the security attacks are witnessed in on-premise solution. This is because of malevolent intentions of employees.

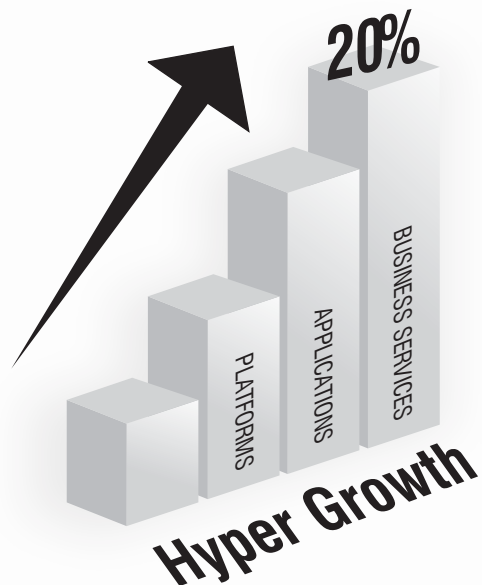
CLOUD SOLUTIONS:

For simple understanding, we can refer cloud as internet. So, cloud solutions are internet based solutions whereby different services such as servers, storage, applications and security

measures are hosted on internet by service providers rather than having it on-premise. Cloud solutions move these applications outside of organization's firewall on shared systems. With cloud as a platform, organizations become free from server maintenance, infrastructure cost and upfront costs.

But, the catch here lies in understanding how actually cloud solutions work for organizations. Only providing internet will not work applications such as time-attendance, payroll, CRM, ERP, etc. for organizations. According to National Institute of Standards and Technology (NIST), Cloud solutions depend on two factors i.e. deployment model and service model. Conglomeration of these two models working on backend actually runs your cloud based application.

“ Forrester Research recently predicted that the “hyper growth” cloud market—including applications, platforms, and business services—will reach \$191 billion by 2020, an astonishing 20% increase over Forrester’s previous prediction, just three years before. ”



Deployment Models: Deployment solely answers to the question i.e. “How the cloud is located?” There are 4 types of deployment models available with cloud.

Private Cloud: This model is exclusively used by a single entity. Example: Business units.

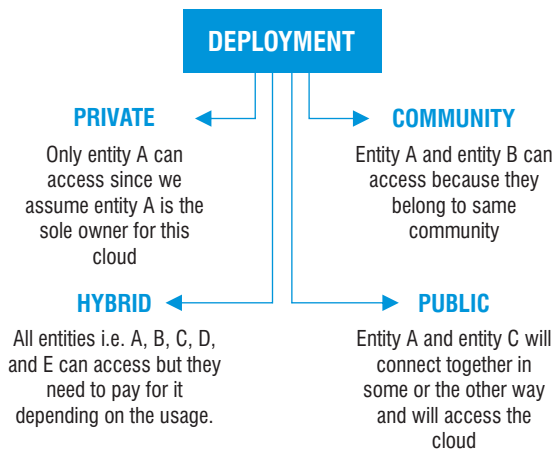
Community Cloud: Community Cloud is used by entities that belong to same community. Example: Common Mission

Public Cloud: This model is used openly by all entities. Example: Government

Hybrid Cloud: It's a combination of any of the above 3 deployment models. Example: Load balancing application between cloud

To understand in a simple way let's take an example:

- There are 5 entities say A, B, C, D and E
- A and B belong to same community



Service Model: Service Models can be called as a reference model on which cloud solutions are based.

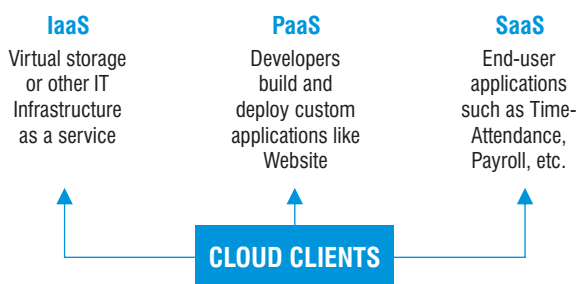
As per NIST, there are three service models on cloud.

Infrastructure as a Service (IaaS): IaaS comprise of technology infrastructure as an on demand scalable service. This includes virtual storage, load balancer, VLANs, etc. Example: Host firewalls, AT&T

Platform as a Service (PaaS): PaaS facilitates complete life cycle right from building to delivering web applications and services on internet. Example: Website, Amazon Web Services

Software as a Service (SaaS): This model allows using software applications as a service to end customers. Example: Time-Attendance

To understand the picture clearly kindly follow the below model for reference:



Know more about NIST norms

<https://csrc.nist.gov/publications/detail/sp/800-145/final>

Some of the examples of cloud applications are Facebook, Salesforce.com, Matrix VYOM, iCloud, etc.

Problems with Cloud Solutions:

Data Security: Cloud solutions have its own advantages in terms of no upfront cost and maintenance cost. But, biggest risk that lies with cloud based solutions is the data security. Because of hacking, phishing and other resources cloud solutions are always at risk.

Internet: In order to implement and use cloud based solution, Internet is must. Hence, it becomes necessary for end-user to have internet 24x7. Without internet, the cloud facility will not work and there are chances that organizations may miss time-attendance, HRMS data due to lack of internet.

COMPARISON SUMMARY:

Like most of the decisions, this too depends on the two words, "it depends". Both the solution has its own pros and cons but the "best" solution depends upon your requirements.

Manpower

On-Premise	Cloud
Requires expert resource in maintenance of on-premise solution	No such manpower required

Support

On-Premise	Cloud
24x7 server monitoring required	As it is cloud based, only internet availability is the prime requirement

Scalability

On-Premise	Cloud
Comes with an added cost.	Easy scale of users as server, database etc. is managed by cloud service provider

Security

On-Premise	Cloud
Organization is solely responsible for security threat and breach. Low chances of security breach	Organization need to ensure that cloud service provider comply with standard security protocols in terms of uptime, certifications, firewall, etc. Moderate risk involved

In terms of cloud security, organizations look for the below points:

- SLA Agreements
- Firewalls
- Is Data center SOC2Type2?
- DDoS Protection

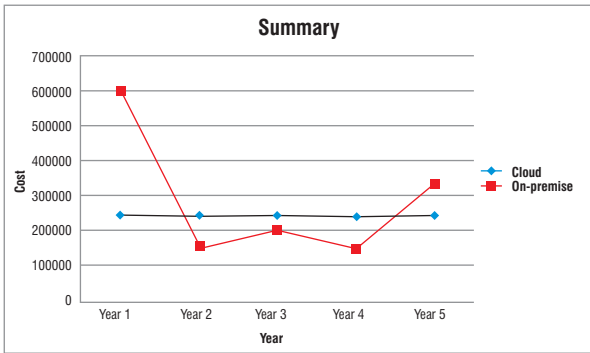
Upgrades

On-Premise	Cloud
Need to pay extra charges for upgrades	Upgrades will be freely available

Cost

On-Premise	Cloud
Requires huge upfront cost and need to have dedicated maintenance cost	On recurring cost involved.

In terms of cost, if we take example of time-attendance application for 1000 employees for 5 years, you will notice cloud is the best option.



CONCLUSION:

After understanding the complete theory of on-premise against the cloud model we can guess that both the solutions are perfect at their place. But, it depends on the organization to select right platform for their application.

SMB/SME: For SMB/SME, cloud solution is the best suitable platform. Since, on-premise cost in terms of upfront charges, maintenance, server, manpower etc. gets excluded in cloud based solution.

Enterprises: For enterprises, on-premise solution is best suited as most of their applications is being maintained and monitored by them.

ABOUT MATRIX

Established in 1991, Matrix is a leader in Security and Telecom solutions for modern businesses and enterprises. As an innovative, technology-driven and customer-focused organization, the company is committed to keeping pace with the revolutions in the Security and Telecom industries. With around 40% of its human resources dedicated to the development of new products, Matrix has launched cutting-edge products like Video Surveillance Systems - Video Management System, Network Video Recorder and IP Camera, Access Control and Time-Attendance systems as well as Telecom solutions such as Unified Communications, IP-PBX, Universal Gateways, VoIP and GSM Gateways and Communication Endpoints. These solutions are feature-rich, reliable and conform to international standards. Having global footprints in Asia, Europe, North America, South America, and Africa through an extensive network of more than 2,500 channel partners, Matrix ensures that the products serve the needs of its customers faster and longer. Matrix has gained trust and admiration of customers representing the entire spectrum of industries. Matrix has won many international awards for its innovative products.

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