UNIT 4

INFORMATION SYSTEMS DEPLOYMENT AND MANAGEMENT

INTRODUCTION

Information systems are equally important as any other assets of the enterprise. Planning, development or acquisition, deployment and maintenance of the information systems assets are more important than ever in the economy with downward trend. It is important to plan which information systems provide better value to enterprise.

INFORMATION SYSTEMS DEPLOYMENT

The systems development methodologies result in a working information system that is ready for deployment. Systems d*eployment* refers to the process of putting information system to action in a systematic way to meet business goals. The deployment process is very critical to ensure enterprisewide or supply chain wide adoption. As there are many stakeholders with multiple perspectives and expectations from both the business and information systems organizations, the deployment process involves inherent risks (related to trust, systems alignment with business goals, change readiness). To avoid failure, a systematic approach for information systems deployment is followed.

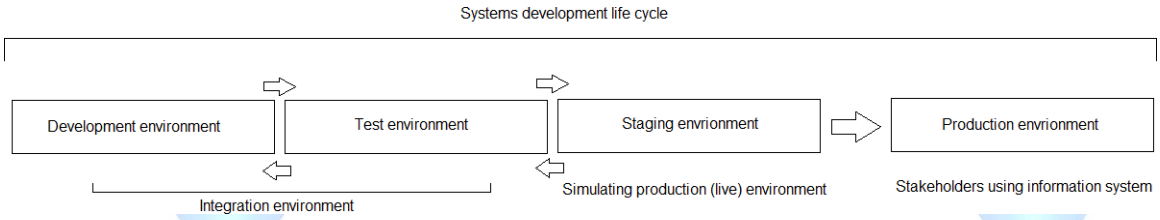

Figure 1: Information system development and deployment tiers

The information systems development and deployment is enabled in four different tiers or environments as illustrated in figure 1:

1. *Development tier*: Teams of systems engineers work to individually to create pieces of code based on the design speciation and release them for testing.

2. *Testing tier*: The committed code released by systems engineers is tested by another group of systems engineers as per the pre-defined test plans in a systematic process. The test reports are then passed on to the development tier team for revision of code. The iterations continue till the code passes all the pre-defined tests. Integration of related code is done either in development or in test environment. Traditionally, development environment is followed by integration environment involving testing.
3. *Staging tier*: It simulates real time business environment in which the information system will be used. This fully tested information system is deployed in staging environment for demonstration and training purposes. The drawbacks of information system to be released can be identified in this stage. The information systems that pass this staging environment will be commissioned for business operations in production environment or live environment.
4. *Production tier*: It is the real time business environment with IT infrastructure in working condition to deliver business results. The information system that passes the staging tier is deployed in production tier for usage. This requires support and maintenance for better performance.

In general, the development and testing environments are created on same physical IT infrastructure; integration and staging environments are created on same physical IT infrastructure. But the production environment is NOT shared with any other environments.

Phase 0 (Prepare): This phase contains steps to do groundwork required for successful deployment. The output of the phase is an agreement between different stakeholders of the information system.

0. *Create the software deployment team (SDT):* During this step, the software deployment team is created with the involvement of people from focal enterprise, the IT services / product vendors.
1. *Review the critical deployment documents:* The SDT created in above step gains common understanding by reviewing critical deployment documents such as the contract, roles, and responsibilities, business context diagram, requirements, solution concepts, etc.
2. *Develop a high-level deployment plan:* This plan maps software products to projects and assigns ownership at project level. It groups deployment into logical chunks with timeline.
3. *Establish a deployment partnership:* It involves formal meetings between deployment team and participants for closing major issues related to deployment best practices and determining required services. The SDT identifies quick deployment wins to create momentum. It also defines critical success factors and milestones.

Phase 1(Refine and promote): The agreed plan is reviewed for any changes made during final negotiations. The deployment plan is refined in this phase and deployment kick off meetings are held.

4. *Refine the high level deployment plan:* The SDT reviews high level deployment plan to reflect any changes made during final negotiations in earlier phase. The output of this step is refined high level deployment plan.
5. *Finalize the deployment plan:* The SDT agrees on the refined high level deployment plan and project controls. It also plans for one or more deployment kick off meetings.
6. *Conduct deployment kickoff meetings:* These meetings create awareness about the deployment among all the stakeholders. It also highlights the benefits of the system and major milestones to be reached.

Phase 2 (Deploy software): This phase involves execution of deployment plans. The projects selected carefully for quick wins are executed first followed by other projects. Project management is very critical in this phase.

7. *Achieve quick deployment wins:* This will demonstrate success and improves confidence to continue full scale deployment. With the results of quick deployment wins, the deficiencies of the information system in real time are identified and removed.
8. *Execute the deployment plan:* Followed by quick wins, all the projects are deployed and are managed carefully for stakeholders' satisfaction towards achieving enterprise goals.
9. *Identify new business needs:* Due to the dynamic nature of business, new business requirements could arise during deployment phase. Such new requirements are referred to as software gaps that can be either fulfilled by existing software or may require additional software. The SDT will return to phase 0 and 1 to follow the roadmap for planning and implementation.
10. *Update the business plan:* The new business requirements are addressed with appropriate software, services and education. The changes are updated in the existing plans for deployment.