

Background

In June of 1997, a large service company began the initial planning phase for a 13,000 device desktop rollout, and the migration of 171 Novell servers to NT. The project was a common office environment (COE) standardization project with the mission to deploy a standard platform consisting of Windows 95, Office 97, Winzip, Internet Explorer and Adobe Acrobat across North America. The company had never attempted a project of this magnitude, but did not anticipate any significant showstoppers, after all, you just take'em out of the box and plug'em in, right? With high hopes and fanfare, the project train pulled away from the station staffed with a Project Manager, two Project Leads and a Server Manager (that's it.). The existing Desktop Support staff would manage shipping and receiving, desktop configuration, desktop deployments and return of old equipment.

The first order of business was to identify the standard platform. After studying a number of options, the company selected Dell desktops, Toshiba laptops and Compaqs as the server standard. Orders were placed, initial planning completed, and the COE team began deployments. Two pilot sites were scheduled for October and November, with all deployment operations beginning in December. The Project Leads were responsible for the execution of the rollout and met the eight Business Units to determine schedules and unique needs. In addition, the leads Racked shipping and receiving, collected site specific information, scheduled training for end users, and conducted on site survey visits. The pilot sites were rolled out as scheduled. As expected during the pilot, the COE team encountered problems ranging from platform issues to the inability to migrate mail and data. Although the problems were identified, the team did not act decisively to solve them.

In assessing the pilots, company expectations were not met and the lack of progress on the problems caused a deep-rooted skepticism to set in regarding the feasibility of the project. To top it off, in the midst of the turmoil associated with working the pilot issues, the Project Manager left the company two weeks before full operational deployment was to start. The Project Leads were left to pick up the pieces of the failed pilots and determine the approach for the upcoming full scale rollouts. Pushing ahead, they worked 80 to 90 hour weeks in the rush to ready the individual sites for deployment and were almost successful the sites were rolled, but they were plagued by the same troubles that the pilot locations had experienced (no surprise). With this, the project was drawn closer to entering a death spiral as unresolved issues ate away the credibility of the team. The train was clearly off the track with all participants wounded to varying extents.

Anatomy of a Project That Turned South

Looking back, the initial stages of the deployment were marked by lack of resources, no budgetary controls, no communicated plan, minimal experience to accomplish a project of this magnitude, and perhaps most critical was the lack of any formal documentation to establish procedures and normalize expectations. The various Shared Services departments and Business Units were not aware of their roles and responsibilities as they were not involved in the initial planning stages. With the departure of the Project Manager, the Project Leads were left high and dry to "wing it" with no experience, no leadership and no executable, approved plan. Countless hours were spent chasing resources, data, hardware availability, and site readiness.

Chaos quickly set in as the following problems ate the heart out of the project:

- No budget.
- No start to finish plan.
- No discussion between the project team and the Business Units as to what actually constituted a complete rollout.
- No definition of "done" where routine support would be handed back to the Shared Services Departments
- Not enough staff to support the workload to successfully complete the scheduled weekend rollouts.
- Management did not direct the team towards specific milestones, and did not challenge the company to meet deadlines associated with the project.
- Meetings were arbitrary and not well attended.
- COE Project Leads did not have the authority to remove sites from the schedule that were not ready to roll.

These issues resulted in unsuccessful attempts to deploy, with weeks of "fixes" after the fact. By the end of November, the project team was suffering bum out, the Business Units were beginning to voice opinions that the project should be stopped, and end users had new machines that were not properly configured, resulting in countless hours of lost productivity. The project, which had left the station with high hopes and great expectations, was a wreck and classic example of what happens when solid PM discipline and principles are not instituted and followed.

The Triage

Upper management realized that the COE had to be deployed and assessed the problems in December. They decided to bring in experienced resources that were equipped to handle the large-scale project. While the search was underway, the problems with the platform were rapidly becoming insurmountable the wreck was getting worse! Applications could not be scripted, the vendor could not provide the machines in the necessary time frame, and desktops that did not work when unboxed, "dead on arrivals," were becoming the norm. In light of this, the company decided to change the platform from Dells and Toshiba's to Compaq machines for all applications. Service Level Agreements had to be written and accepted; machines had to be built and shipped; new images had to be created and tested; procedures had to be documented; and applications had to be scripted.

The Reconstruction of the Project

In January of 1998, the company brought on a Project Manager from an outside vendor. The new PM had experience with large-scale deployments and a deep professional history in logistics, planning, management, and communication. He brought with him tested and proven tools of trade, including, but not limited to, intellectual capital from previous rollouts that outlined the many phases of this type of project. The new Project Manager was given the task of not only bringing the project to a close by July 31, 1998, but also had to take control of a deployment process that was already in execution and out of control.

A short list of significant problems that faced the PM were:

- Asset management could not determine the exact number and/or location of devices that needed to be deployed.
- Storage facilities for new and old machines were overflowing.
- Hardware vendors were not meeting their deadlines.
- Shipping and receiving could not keep up with demand.

The Project Manager quickly surveyed the six-month-old wreck, and took firm action to get the train back on track. An essential reality that he had to deal with was the need to deploy 650 machines each weekend to meet the project deadline. The Project Manager's first actions included building a team that would provide the needed manpower; would involve all departments of shared services in weekly meetings and planning sessions; and laying a solid foundation for the process through documentation of every task and deadline.

Resources devoted to this project were clearly inadequate and the PM had to find and train additional staff. The existing Project Leads were kept in place, and two more were added. Their site related responsibilities were off loaded onto 10 new Field Team Leads. The Field Team Leads were accountable for gathering data via on-site surveys and reporting back existing LAN/WAN infrastructure and needed upgrade. The Field Team Leads were

Also in charge of the actual weekend deployments. The creation of this team took many of the site specific, day-to-day tasks off of the Project Team Leads, and allowed them to work more closely with the Business Units and other shared services departments to determine schedules and deadlines. Secondly, a scheduler was added to handle the control and flow of resources, budgets, and data. The scheduler's first duty was to create the Master Schedule to address the critical Who, What, When, Where and How of the project. This was a key piece of the puzzle that should have been completed in the initial planning stages of the project.

The server manager was not left out of the restructure effort and was given the go ahead to ramp up. The server team grew from one to eight people, consisting of a manager, three data collectors and four Microsoft Certified System Engineers (MCSE), who were responsible for building, configuring, shipping and the on site server deployment. Once the server team was fully staffed, they could rollout up to nine servers in a given weekend.

The task of configuring and shipping the desktops and laptops was lifted from the desktop deployment staff, and a team of contract technicians was hired. These technicians

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Machines were configured and shipped during the week, and rolled out machines on the weekend. A lab was created and manned with three levels of technicians. The lab technicians were responsible for image creation, technical support, and application verification and scripting.

Finally, a training manager was added to the team. This manager played a dual role as both training director and COE operations manager. A team of three trainers was assembled to conduct classes for the sites. Within six weeks, the COE team had increased from two people to a core team of 29. A team, ranging anywhere from 20 to 80 technicians, depending on workload, was also present. Recommendations were made to add both a procurement expediter and a Print Manager, but those positions were not supported with funding.

Planning

With the manpower situation under control' the Project Manager began creating and communicating a solid plan for the rollout. The Master Schedule was created and accepted. Following this task, a process for tracking and control of the milestones needed to be constructed. The scheduler created a Readiness Tracking System (RTS) that controlled both the critical and summary tasks of the Master Schedule and placed them in an easily accessible spreadsheet. The RTS listed each site by date and used a simple method of a checks and zeroes to denote what had and had not been accomplished for each site (a check indicated the task was complete). A weekly RTS meeting gave representatives from each area the opportunity to review and update the status of each task.

As the plan rapidly matured, each site was managed by an 84 day rollout cycle. This schedule listed each task that had to be accomplished for the rollout to succeed. It also specified the owner of the task, and the time frame in which the task was to be completed. For example, site surveys were to be completed 80 days prior to rollout; the final site and user data spreadsheet, containing all site specific data, was locked down and given to asset management 21 days prior to rollout; training was scheduled within five days of rollout; etc. This document, like all others, was placed on the server for access and distribution.

Remember all those unsolved problems and issues?

An Issues Management document was generated that listed, and systematically tracked, all open issues that concerned the project. Individuals were assigned the task of solving the problems and weekly meetings were held to discuss solutions and status of each issue.

A deployment schedule was created that listed each site to be deployed, the date it was to be deployed, the Business Unit under which it fell, the number of machines to deploy, and both the Project and Team Lead assigned to the site. Finally, weekly Lessons Learned meetings were established to inform team members of problems that had arisen on the deployments of the previous weekend. This meeting was essential in keeping communication lines open between the Business Units, COE team, the Desktop and Server Departments, and served as a forum for problem solving.

Control

The Control process involved not only the Master Schedule, Readiness Tracking System, Issues Tracking System, 84 Day Schedule, Deployment Schedule and Lessons Learned Meeting, but also included predeployment meetings, Risk Management and the development of Exit Criteria.

Pre-deployment meetings focused on the discussion of unique issues surrounding deployments scheduled for the upcoming weekend. It was a chance for Desktop Services to make the Field

Leads and technicians aware of site-specific infrastructure. The Project Manager and the core COE team determined risks and mitigation to allow for unforeseen break/fixes. This risk assessment allowed the development and control of contingency plans for areas of the project that could falter or break.

An Exit Criteria document was designed and agreed upon by the Project Team, the IT Managers of the Business Units and the departments within Shared Services. This document facilitated a clean hand-off of support from the COE team to Shared Services departments. All agreed that the COE Team would provide two days of post rollout support, involving break/fixes and on site company relations. At the end of this support, the Field Team Lead, IT Manager and a representative of Desktop Support would survey each site and sign the completion document, stating that the site had been successfully rolled out. This released the COE team from further support duties. The control process also demanded that the Project Manager meet with IT management for weekly project and budget reviews, to keep them abreast of the progress of the project.

Challenges of Change

The building of the team, documenting of the plan and process, and the effort to keep control did not abolish all of the problems of the project. There were still numerous obstacles to overcome. Foremost, the Project Manager was never given a budget with which to work, and had to constantly go to management for approval of even the smallest of expenditures. Secondly, the decision to change the platform after execution began to cause delays. The new image that had to be created for the new platform took longer to create than expected. Deployments had to be stopped for two weeks in February to allow for image creation and testing. The Business Units were behind in their information gathering processes, and some of the units had not even scheduled a single site well into May.

Another major project change occurred in March. The server manager was told to stop using Compaq servers, and to begin using IBM servers. The impetus for this change came from a delayed management decision to align server migration with an ongoing network project associated with a switch of outsourcing vendors. Prior to this edict, the server team had been placing both Primary Domain Controllers (PDC) and Backup Domain Controllers (BDC) at all sites with a 56KB line or less. With the arrival of the new vendor, the infrastructure was reviewed and they determined that too many resources domain controllers were being placed. The new vendor presented a server migration plan to the company that contained a document which specified where servers would be located, and when maintenance and support would be taken over by the new vendor team. The new vendor server schedule was, in many instances, in direct conflict with the COE server schedule. Friction arose over who owned responsibility for maintenance and support of the server after a COE rollout. In addition, the new vendor determined that the company, for its North American operations, only needed two resource domains. This decision was, again, in direct conflict with COE procedures. Changing the suggested names of the resource domain controllers would affect the entire existing NT server fleet. There was no short-term fix for this disconnect and the leadership decided that the server team would continue to follow the same procedures that had been adopted at the beginning of the project. This decision resulted in deploying servers that would eventually need a complete rebuild to meet the new vendor specifications.

Another continuing problem was printing. The absence of a Print Manager left the printing arena in a "no man's land." No one was directly responsible for collection of data, identification,

and upgrade of printers. What should have been a full time position usually fell into the hands of the server team, or the Field Team Lead.

A significant change occurred in June of 1998, seven weeks before the project end date. The vendor providing the PC Technicians pulled out of the project, due to unresolved contract disputes. This dilemma could have caused the train to come to a screeching halt. However, as a direct result of the risk management procedures and plans, a backup team was quickly mobilized to carry the project through to the end.

Results

The end of the Project resulted in the successful deployment of 10,200 desktop devices by July 31, 1998 (with over 1,000 systems being rolled out over July 4th weekend). Client needs were met; end users received documentation and training to assist their migration to the new computing environment. The original number of 13,000 was not deployed due to field project demobilization and the lack of planning and response on the part of some of the IT Managers. The 2,800 devices not deployed will be handled through Desktop Services at an undetermined later date.

The initial lack of planning and experience caused the COE Project to get off to a rocky start. The lack of research and direction left team members with an overwhelming sense of failure and frustration. Although the first site was deployed in October of 1997, the project did not get on schedule until February 1998, with 85% of the total deployment in the final four months of the project. Leadership, hard work and team effort led to successful completion of the project. There are always hurdles to overcome, and this project experienced more than its fair share. These included resourcing, team conflict, lack of delineated budgetary constraints, and the unwillingness of upper management to acquire a print manager, inadequate forage facilities, and no expediter for procurement. Creative problem solving became a daily exercise to ensure that these problems did not affect the goal. This is the key point of this discussion in an ideal world, proper planning and experience in the initial phases of the project could have circumvented the majority of the problems. In the real world, we end up doing much of this on the fly as we raise the level of project management maturity in our organization. Our challenge is to leave the bar a little higher at the end of each project by showing how resources are conserved, schedule maintained, and confusion minimized.