

IT Production Services

The key component to building a competitive IT infrastructure

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Introduction

This article traces the evolutionary developments of the data center over the past thirty years. It focuses on the Production Control function of the mainframe environment of the 1970s, and describes how this critical area met its temporary demise in the 1990s. The chapter concludes with a brief discussion of how Production Control is now evolving itself into a more relevant Production Services function, and being put to use to build world-class infrastructures.

The Data Center Heritage

Our early years reared in a mainframe-based Data Center will never be forgotten. Once promoted into a computer operator position which usually started out during a graveyard shift, we were to execute the mission critical batch cycles by manually mounting and unloading hundreds of tapes a night. Each backup was treated as if it were a bar of gold. Our supervisor (bless his heart) was like a drill sergeant always intimidating the heck out of us in order to ensure that the tapes were never mislabeled or that we write over the wrong tape. The data center stood for discipline; it was a way of life in the world of Data Processing.

An integral part of the data center's success was something we referred to as Reliability, Availability, and Serviceability (RAS). RAS was always priority number one in the seventies and early eighties for the Data Center support staff. RAS was more than just an acronym it was a way of ensuring continuous customer access to their computing environment by establishing and adhering to processes and implementing global standards. System Management Processes and key functions to support mission-critical applications were entrenched in the infrastructure to ensure RAS.

Unfortunately, during the late eighties and into the nineties, these functions and processes were put on the back burner in order to focus on technology. New wave propeller heads tried to bury the disciplines because it evolved from the mainframe era. The perception was that centralized or corporate IT symbolized the slow and bureaucratic. Since then times have changed and the concentration is now back on providing high availability while focusing on customer service and cost effectiveness. These are a tall set of orders which are no longer an option.

In order to accomplish this arduous mission the first priority would have to be for the infrastructure group to work closely with the Applications Development staff early on in the design and deployment of new applications, systems, and/or technology. To do so would require a process designed, developed and owned by the infrastructure support organization

that has accountability for this mission. It would require a process that would ensure customer service and high availability from the beginning of the system straight through production deployment.

Regrettably though, a common factor within IT today is the lack of a process for the infrastructure organization to manage such responsibilities. Every IT person knows what quality assurance (QA) is, and the key role it plays in developing new systems or revising existing applications regardless of the technology (mainframe, Client/server, Web, etc.). QA is a very critical function that has been around for decades. Its primary purpose was to manage the migration of new code into production. In the 21st century QA is still a requirement not only for applications development, but it is now *also* a requirement for Production Services for building a world-class infrastructure.

Production QA

The first question one might ask is why in the world would you potentially want to introduce another QA function and potentially introduce more bureaucracy? Well, in today's fast pace network computing environment everyone in IT has no choice but to work harder and put in longer hours just to keep up with customer demands, fewer resources, and rapidly evolving technology. Customers want everything "yesterday" including deploying systems the second the applications development or executive management staff says they are ready. In most companies, the infrastructure support staff is not involved in the early stages of the Software Development Life Cycle (SDLC), when many of the infrastructure requirements need to be identified and addressed.

The infrastructure support group oftentimes is not involved in the SDLC until it is time to go live. Unfortunately once the system is labeled production ready, the burden to maintain high availability falls squarely on the shoulders of the infrastructure support staff. If the support staff does not comply, they are made to look like the bad guys. Compliance by the infrastructure support staff is usually not required. After all, the company is dependent on this new system and it must go live on this certain date regardless of the consequences – how many times have we in IT heard that line? There's never enough time to test and thoroughly QA a system; however, there is always ample time to revise-if necessary. The bottom line is, introducing a QA function to both applications development and to the production infrastructure support staff would be the ticket to ensuring and preserving the data center and everything it stood for.

Production Control

The Production Control organization was established in the early seventies to provide a QA function for the legacy environment. Its functions were to:

- Provide second level production support
- Participate in the disaster recovery process/drills
- Reject new applications or major revisions to applications into production prior to thorough testing, staff training and documentation
- Breed technical resources
- Maintain scheduling requirements

- Provide centralized ownership/accountability for key processes i.e. Change Management, Production Acceptance, etc.
- Maintain system management tools
- Assist senior technical support staff in the installation, support, and documentation thereof
- Provide training to other groups within IT on newly installed system management tools

The Production Control staff was best known for their hard-nosed dictator attitude. They were then branded the gatekeepers to the mission critical data center environment.

Why Bring This Function Back?

We've been asked this question hundreds of times from coast to coast in this country alone. The answer: because IT needs to ensure a high level of customer service and preserve RAS. IT organizations are trying to effectively manage the infrastructure on a part time basis because to them it's never a priority. However, deploying new systems and technology must always be a priority; therefore, ensuring high customer satisfaction *must* also be a top priority.

Production Control vs. Applications Development

When IT began to ignore the Production Control organization, it subsequently disregarded and discarded enterprise-wide process accountability and proactively addressing the people issues. After assessing hundreds of Fortune 500 and Global 2000 companies, it became apparent that organization structure, people, and process focus was lacking throughout most IT infrastructure organizations.

One of the primary functions of the Production Control group was to accept or decline new systems/applications from Applications Development into what the infrastructure support staff considers the sacred production environment. The job was to ensure high availability by not contaminating the production environment with poorly developed, improperly tested, and poorly documented systems. Application Development's charter is to design, develop, and deploy a system into production as quickly as possible.

Two worlds clash

Nothing and no one entered the holy temple (Data Center) until the proper documentation was provided, the appropriate staff was trained, and the application went through a very thorough QA process. The "gatekeepers" had as much power to decline a new system being deployed into production, as did the Applications Development staff had for bypassing the normal process to expedite a system into production. There was no bargaining; it was Production Control's way or the system would end up in the department's broom closet, not supported by the Data Center support staff. You can imagine the friction this caused.

This dictatorial type of behavior by the Production Control staff lasted throughout the seventies and midway through the eighties. This mainframe function was one-sided in favor of the Production Control group. In the late eighties and throughout the nineties as most

companies transitioned to a decentralized client/server computing environment they did away with the Production Control function and so went the production QA function altogether. Along with production QA went RAS. RAS became a thing of the past.

Some companies tried to keep this organization in tact by changing the function dramatically. The perception was that Production Control was bureaucratic and slow. As technology was evolving at a torrid pace in the late eighties and through the nineties this perception became a reality throughout IT. Sometimes it took several weeks to put a system into production. The intent was good but it really slowed down the deployment of new systems, which in-turn angered the user community. The bureaucracy was unbearable. A happy medium was absolutely necessary between bureaucratic legacy environments and today's networked heterogeneous world.

In the nineties, this same centralized Production Control staff didn't dare say "no" to new systems or applications being deployed into a production environment regardless of whether or not they followed a process or procedure. The support responsibilities were pretty much contained to mainframe applications. Because of the bureaucratic process and dictatorial behavior the newer client/server technology was off limits. There are a few companies that still have a centralized Production Control staff supporting all applications but their responsibilities are very limited. If for whatever reason the Production Control staff declined (i.e., through poor operations documentation) to accept the new system into the corporate production environment, the customer/owner of the new system would construct their own systems even if it meant installing the server in their office. Once the system was declined by Production Control the customer had no choice but to install the server wherever possible because they still had a business to support.

Once a system went into production status, it became certified production ready, and consequently, it was located in the corporate or regional Data Center, the buck then stopped with Production Control. If the system was unstable (unable to maintain 99.9% uptime availability) there was no one to point fingers at but themselves. Production Control's failure during the legacy environment and even in today's network world was determined by postponement of communication or lack thereof. Production Control waited until the application was complete before they would start communicating with Applications Development staff regarding their system requirements. There was very little communication between Applications Development and the entire infrastructure support staff – especially Production Control.

Evolving Production Control into Production Services

During the 1990s, many shops began hosting mission-critical applications on client-server platforms rather than mainframes. This trend further reduced the role of Production Control that had its roots in the mainframe environment. Production Control was not involved in the early design of these new client-server systems, and was never involved in any of the pre-production activities. Systems were literally thrown over the wall into production. Production Control was never involved until applications development said their systems were ready. Nine times out of ten, the systems were not ready for production.

A definite key element to our methodologies is not to discard any of the mainframe disciplines. Today's IT shops should embrace these system management disciplines and in the process re-engineer, customize each one as well as remove any bureaucracy associated with the legacy world.

In applying this approach to the Production Control area, we propose replacing it with a more refined, customer service oriented up-to-date version of it that we call *Production Services*. This new function includes many of the features of the mainframe-oriented Production Control, but with the added flexibility to manage the more dynamic nature of client-server and even web-enabled applications. Production Services is now becomes the "brokerage" house for all mission critical applications. The primary responsibilities of the newly designed Production Services organization is to:

- ✓ Act as a communications liaison between the Data Center and Applications Development
- ✓ Design, implement, and have ownership and accountability for enterprise-wide process
- ✓ Provide 2nd level production support
- ✓ Have accountability for Service Level Management (SLM)
- ✓ Act as production gatekeeper