PRODUCTION CONTROL=INFRASTRUCTURE QA

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

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- ➢ 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 and documentation
- ➢ Breed technical resources
- ➢ Maintain scheduling requirements
- ➢ Provide centralized ownership/accountability for key processes i.e. Change Management, Storage Management, etc.
- ➢ Maintain system management tools
- ➢ Assist Senior systems programmers in the installation, support, and documentation thereof
- ➢ Provide training to other groups within IT on newly installed system management tools

The staff was best known for their hard-nosed dictator attitude. They were 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 every part of this country, the answer, because IT needs to consider ensuring customer satisfaction and preserving RAS as a priority that will effect all areas of IT. Our response is based on actual data from our Infrastructure Planning and Development Workshops (See Table 1 below for actual data from a workshop). The list was appalling but was it shocking-no, primarily because IT organizations try to do it on a part time basis – its never a priority. Deploying new systems and technology is always a priority. Ensuring high customer satisfaction MUST also be a top priority.

When IT began to ignore the Production Control organization, it subsequently disregarded and discarded processes and people issues. The primary reason for writing this article was to highlight the results from dozens of infrastructure planning and development workshops. After performing these workshops with Fortune 1000 companies, it became apparent that organization and process focus was lacking throughout all IT organizations.

Infrastructure Planning Workshop

This workshop is like no other. The primary objectives of the Infrastructure Planning and Development Workshops are to:

➢ Highlight, categorize, prioritize the top 3-4 IT Infrastructure related issues.
➢ Develop a playbook to address the top issues.
➢ Get buy-in from all IT (Staff, management, executive management)

The table below depicts the top IT infrastructure related issues and which category (people, process, organization, etc.) the issue is associated with. Many issues fall under multiple categories. We have also identified issues that conceivably could be resolved with a Production Control function.

Table 1. Data from Infrastructure Planning and Development Workshop

Top IT Infrastructure Development & Support Issues	Category	Resolved with P.C. Function	Potentially resolved with P.C. Function
Lack of a process to gauge Customer Satisfaction	Process		
Lack of a security policy and staff to implement security	Process IT Management Organization		
Lack of defined Metrics for measuring the affectivity of IT	Process		X
Lack of Standards and adherence to standards throughout the infrastructure-the enterprise	IT Management Process Organization		
Three Levels of Technical Support (System Admin) not defined	Organization	X	
Lack of an effective Architecture/Planning function involving the design of infrastructure	Process Organization		
Difficult for Staff to learn new technologies-preoccupied with daily "firefighting drills"	Organization	X	
Multiple Support groups, roles and responsibilities unclear for customers i.e. desktop hardware group, desktop software group, & desktop project group	Organization Communication		
IT shops are Organizing based on	Organization		X

particular technologies, i.e. Mainframe, AS400, NT, UNIX, Novel, etc.			
Reinventing the wheel-wasted costs	Organization		
Lack of RAS in production environment	Organization Process People	X	
Increased costs for Maintenance and Upgrades to software to keep software in synch with changing business & technology	IT Management		
Lack of Coordinated responses to problems with appropriate escalation or inability to respond	Communication Process Organization		X
Lack of Service Levels between Operational Support & Applications Development and between IT & Customers	Process Organization		X
Recruiting/Retaining Technical resources is difficult	Organization People		X
Not Enough Staff to cover all support requirements	Organization People		X
Two Separate Infrastructure support groups causing combative (power struggle), ineffective, inefficient, inter-group chasm between Infrastructure Development & Production Support	Organization		X
Need a Balance between standards and flexibility	Process		
Lack of Communication about decision making at the Director Level	Communication		
Business Liaison Interface with infrastructure support (IS) needs to be more integrated-they promise customers more than IS can deliver	People Communication Process IT Management		
Enterprise-wide Change Control notification process ineffective	Communication Organization Process		X
Technical Staff input not used in key decision making throughout IT	IT Management		
Help Desk cannot support all technologies they are responsible for	Organization People		
Lack of Centralized, empowered Project Management methodology/process	Organization Process		

Help Desk provides inadequate and/or incorrect information or problem tickets	Organization Process IT Management		
Lack of Coordination between End-users and Support groups	Process Communication	X	
Unclear decision making process, inputs, parameters	Process Communication		
LAN Support is split between multiple organizations	Organization		
Database Administration is not centralized; in many companies it's organized under Applications Development, for others in Operations support, and yet for others it's split between the two	Organization		
IS Management and Technical leads ought to manage customer expectations	Communication		X
Philosophy is to say "yes" to customer regardless of their demands; customer perception is the inverse-more common	Organization Communication		
Over reliance on consultants	Organization People		
Irrational Organization structure-responsibility without accountability	Organization		X
Need "all-IT" meetings on a regular basis	Communication IT Management		
The centralized IS group is perceived to be in a glass house/ ivory tower environment	Process Communication		
Lack of respect for IS from customer base	Organization Communication Process		
Meetings-inefficient, too many, difficult to coordinate, often changed, lack of respect for attendance, punctuality, preparation	IT Management Communication		
Unclear Centralized Ownership along with scattered responsibilities of technology and process, i.e. Change Management, Production Acceptance, Problem Management	Organization Process	X	
Customer driving technology decisions more than they should	Organization Process Communication		
IS needs to market/sell services	Organization		X

corporate IS	Process Communication		
Business Liaison model should not be eliminated from customer perspective	Organization		
International Technical resources do not report into centralized IT	Organization		
IS not seen as a strategic business partner	Organization Communication		
Lack of Enterprise-wide System Management and Monitoring tools or its not enforced	Organization IT Management People Process		X
Customers Circumvent call process (call who they know, or who will give them the answer they want	Process Communication		
No Internal QA process for IS	Process Organization	X	
Too many Technologies deployed that cannot be efficiently supported	Process People Organization	X	
Ineffective Problem Management or lack thereof	Process Organization		
Lack of Clear roles and responsibilities throughout enterprise consequence wasted costs, duplication of functions, poor morale	Process IT Management Organization		X
Poor Communication within organization on all levels/barriers, walls between groups	Process IT Management Communication Organization		X
Formalize Level 2 Support structure	Organization Process	X	
Lack of testing or pre-production environment	Process Technology IT Management Organization		
Lack of Technical resources–inability to pool resources	Organization People	X	
Lack of an Effective enterprise-wide Change Management/Control process	People Process Organization	X	
Need better Communication of standards	Communication		
Need to do a better job of getting the technical resources aligned with the	Communication IT Management		

business drivers and requirements	Process		
IT focused on High-Visibility projects VS Planning-thus a separate structure focuses on Production Support	IT Management		
Lack of Mission and Goals of IT as a whole, and the communication of Goals and Mission	IT Management Communication		
Lack of Management Resources	IT Management		
Tactical not Strategic approach	Organization	X	
Lack of a process to market and sell IT services	Process	X	
High Complexity in the Organization structure	Organization		
Multiple Helpdesks-no integration of the corporate with the local helpdesks	Organization Process IT Management		
Split Network Support functions	Organization Process		
Ineffective Project Management and resources	People Process Communication Organization		
Lack of a Tape Librarian function	People Process Organization		
Lack of Benchmarking	People Process		
Lack of Senior resources to mentor lower level technical support	People Organization	X	
Lack of a Production Control function (Production QA, 2nd level system Admin, process ownership, etc	Process Organization People IT Management	X	
Duplicate System Administration and Management functions	Organization		X
Lack of Storage Management process	Process		X
Lack of Definition of what is Mission Critical and Levels of importance to the business-prioritize	Process		
Lack of Hardware Management	Process IT Management Organization		
Lack of proper Process with curriculum to transition and mentor staff consequence lack of effective technical career development path	Process IT Management People Organization		

Lack of Strategic IT Marketing and Sales of IT services. IT needs to communicate its services to its customers	Process Communication		
Lack of Software version control and code migration	Process		
Lack of Asset Management	Process		
Lack of Capacity Planning	Process		
Ineffective Global Coordination	Process Communication IT Management Organization		
Lack of Configuration Management, in both hardware and software configurations	Process		
Lack of Production Acceptance process and Client Server application	Process	**X**	
Lack of internal and external Service Level Agreements	Process Organization		
Lack of a Disaster Recovery process	Organization People Process IT Management		

We have facilitated dozens of infrastructure planning workshops. After identifying thousands of issues, 84 of those issues were reoccurring. Below we have categorized these issues, many of which fell into multiple categories. Of the 84 issues, we felt 32 could be addressed by a Production Control function. SO YOU ASK WHY BRING IT BACK?

Results	
Category	# Issues identified
Organization	54
Communication	24
Process	53
Technology	1
People	17
IT Management	21

Production Control vs. Applications Development

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 mission critical production environment. Their job was to ensure RAS. Application Development's charter is to design, develop, and deploy a system into production as quickly as possible.

Two worlds clash

Nothing would enter 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. They 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 production control group. 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. The mainframe process was one-sided in favor of the Production Control group. In the late eighties and throughout the nineties as most companies transitioned to client/server computing in a decentralized environment they did away with the Production Control function and so went the production QA function altogether. Along with production QA went RAS. RAS was an afterthought.

Some companies tried to keep this organization in tact by changing the function dramatically. The perception was that production control was bureaucratic. 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 is absolutely necessary between bureaucratic legacy environments and today's network world.

In the nineties, this same centralized production control staff wouldn'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. Their support responsibilities were pretty much contained to mainframe applications. Because of their 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 they 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 a broom closet. 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 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 Software Development Life Cycle (SDLC) 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.

Production Control 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 (in the eyes of the infrastructure support staff) ready for production.