



Release Management: The IT Operations Perspective

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FOCAL POINT

IT operations groups continue to struggle with the “release” of application, infrastructure, and operational alterations into their IT production environments. Through 2008, IT operations groups (ITOGs) will increasingly seek to develop/maintain/improve the quality of IT releases by formalizing and adopting processes that enable improved notification, risk assessment, prioritization, and testing of new releases into the production environment.

CONTEXT

Release management, the introduction of new technology into the production environment, is the first opportunity IT customers have to experience IT's newest capabilities, whether the technology is a newly developed application or a newly introduced piece of infrastructure. As a result, success/failure of the release-management process will greatly affect the future business/IT relationship. Therefore, it is important that releases be managed effectively from inception to closure and that all IT groups work in concert to deliver quality releases as consistently as possible.

Release management will require the participation of many IT groups and may be considered parts of development, operational change management, production acceptance/control, the tail end of the IT delivery life cycle, etc. Through 2006, successful release management will rely less on which group “owns” release management, focusing more on the recognition that particular release-management activities exist.

Understanding/Building the IT Release-Management Process

Although there is no “one/correct” view of the release-management process, in the traditional plan/build/run fashion, release management could be considered the collection of activities that ensure that something that has been built is put into production effectively, economically, and with relatively minimal negative impact to the existing production environment (see Figure 1). Through 2006, ITOGs could find their release-management activities closely paralleling other processes (e.g., change management, production acceptance/control). ITOGs will maximize release-management success by ensuring that effective management of both release-planning and release-distribution activities are defined and appropriate for their particular environment.

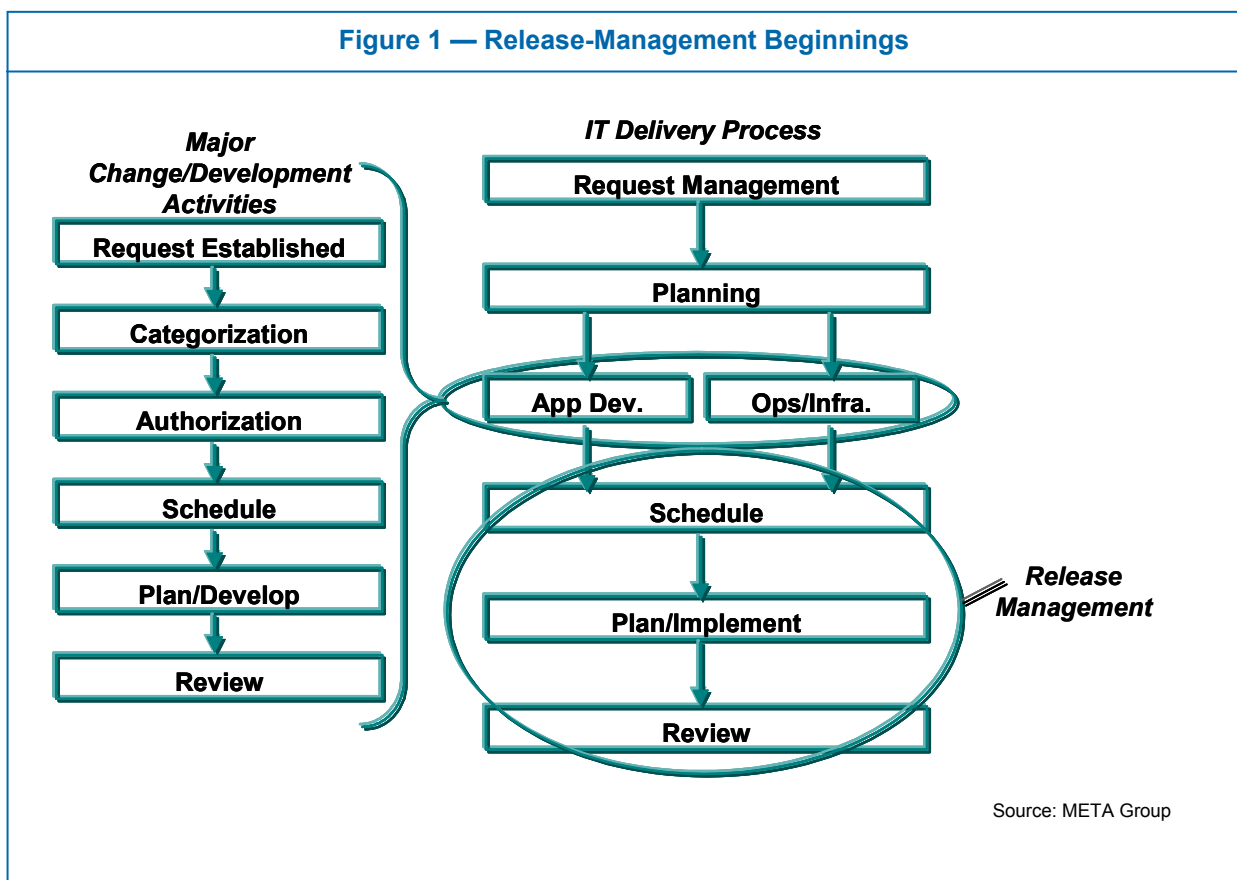
Planning the Release (see Figure 2)

- **Release request:** The major complaint made by ITOGs is that they are seldom made aware of releases prior to when they are expected to implement them within the environment. Because releases must be a coordinated effort across multiple groups, it is critical to establish a consistent mechanism for the notification and validation of releases throughout the process. Some IT groups will find that aligning their release requests with their enterprise master change schedule or service desk will greatly improve knowledge of releases. Coordinating release requests also enables the IT groups to review support requirements (e.g., examine rollout histories, assess installation procedures, ensure tested release components are in place and that back-out procedures have been tested); compare the upcoming release with previous operational experiences; and assess operation support capabilities (e.g., service levels, schedules, workloads).

META Trend: Through 2008, IT operations groups seeking to effectively develop and enhance their operational processes will formalize their efforts, focusing on process definitions, performance measurement, and analysis of potential refinements — ultimately creating a culture that embraces continuous improvement. Although most IT operations groups' efforts are still in their infancy, significant gains will be made by leveraging the process refinement practices experienced by both IT (e.g., ITIL) and non-IT oriented (e.g., Six Sigma) organizations.

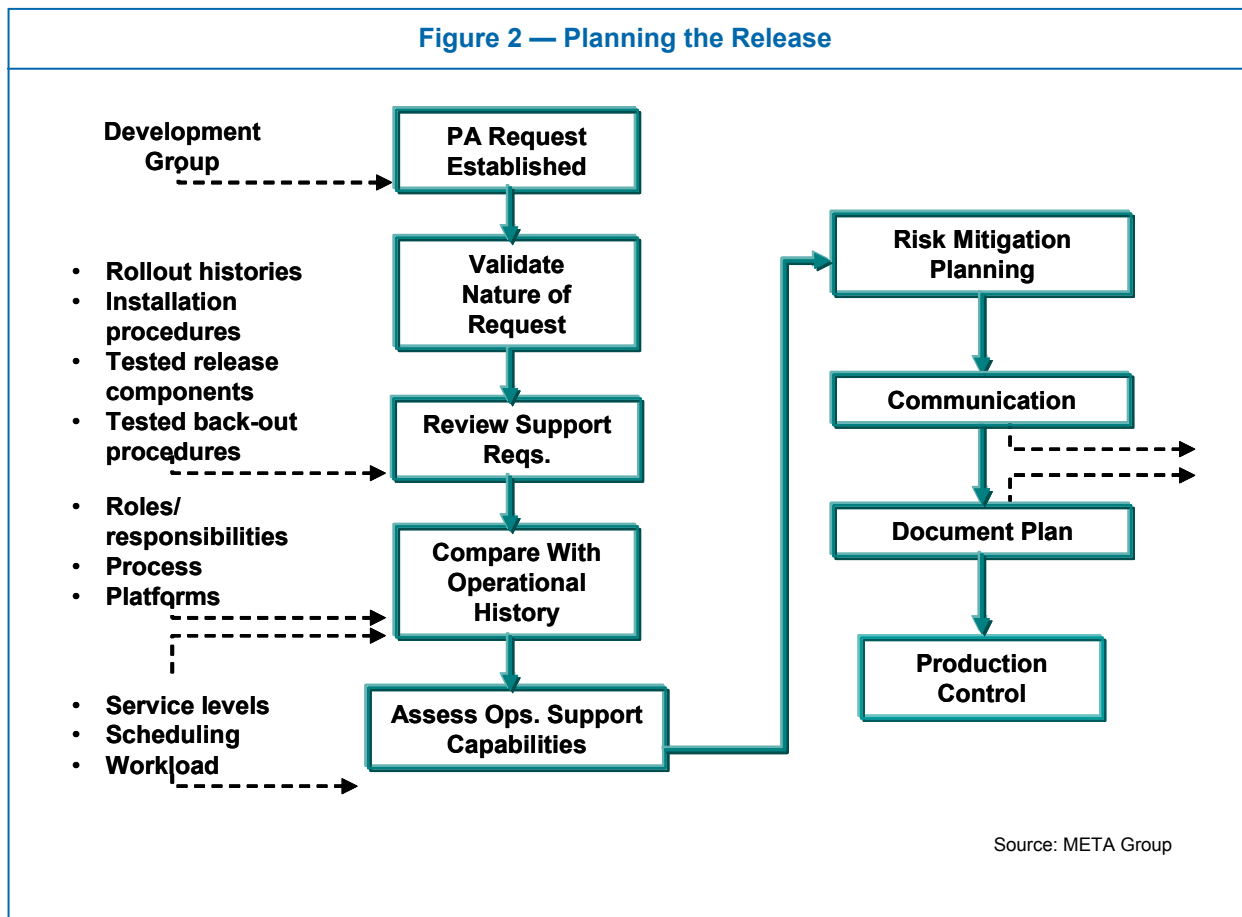
- **Risk mitigation:** The release of any new technology could have significant impacts to the production environment and must be planned for accordingly. Risk-mitigation planning and communication should occur to ensure that the lines of business are aware of potential impacts to the environment resulting from new releases. IT groups will communicate release management risk via varied relationship management roles.
- **Release-management planning:** Once release requests have been validated and appropriate risk assessments have been performed and communicated, releases must be prioritized and coordinated. Release-management planning is the final handoff from the establishment of the release request to the physical distribution of the release into the production environment.

Figure 1 — Release-Management Beginnings

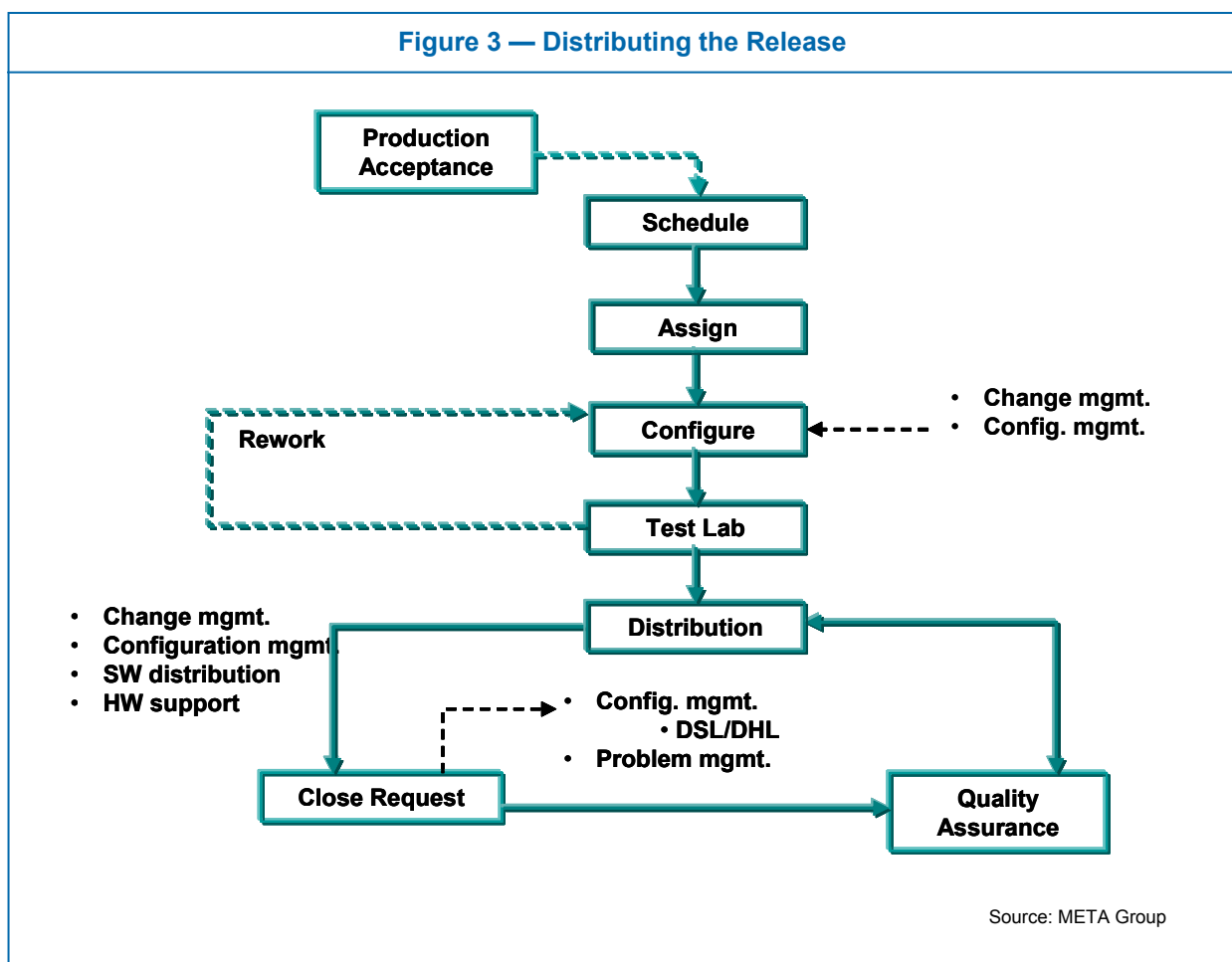


Distributing the Release (see Figure 3)

- **Schedule/assign releases:** Depending on the size/complexity of the release, the IT group responsible for getting a release into the environment might not be the same as the group that performed the risk assessment or initial planning. Even when release prioritization and risk assessments have been performed at the enterprise level, local IT groups must finalize implementation schedules and risk assessments to ensure the release will be performed smoothly. For example, large ERP releases will be coordinated across all IT groups, with the majority of prioritization/scheduling/assignment set prior to IT operational involvement. However, IT organizations that are rapidly modifying their environments (e.g., financial services firms might perform 40+ releases/year) tend to have smaller releases and are more likely to rely on IT operations for prioritization/scheduling/assignment.
- **Final configuration:** Once the release has been received by the production environment and prioritization/scheduling/assignment has been set, the operations group will perform a final packaging of the release to get it ready for distribution.



- **Test lab:** Although testing will occur throughout the application life cycle and will be performed by multiple IT groups, IT operations must perform a final test function to ensure that the application will perform as expected against the larger production environment.
- **Distribution:** Depending on the size of the release, distribution of releases might take many forms (e.g., changes, SW distribution) and be performed by different IT groups. Although limiting releases to fewer than 12 per year would enable better planning, risk assessment, review, etc., IT groups will often consider larger changes (e.g., potentially risky modifications to ERP) as releases. Some IT groups have implied that large application patch efforts too, should follow a release-management process. Therefore, it is important that through 2007, IT operations groups' release-management process closely parallel their change-management processes.
- **Quality assurance:** Similar to test lab, quality assurance takes many forms and occurs at many points in the application life cycle. As part of the initial release, it is critical that IT operations perform an assessment of quality, whether that assessment is part of a formal quality program (e.g., Six Sigma) or a simple assurance check. This ensures that the release has been performed as expected and that when implemented, the release performs to user expectations.
- **Closer:** Following the release, it is also important to accurately document what alterations were made to the production environment, when they occurred, who performed them, etc. Closure of the release will involve closure of the release request ticket (commonly part of an enterprise change system and or the service desk); communication with customers that the release has been performed and appears to meet expectations; and documentation of alterations and storage of the implemented version in the configuration management databases.



Integrating Release Management With Other IT Operational Processes

Through 2006, a well-detailed release-management process will need to be developed and leveraged across organizations, with clearly defined and understood cross-process relationships:

- Change management will prove to be a critical process integration point with release management, enabling the effective coordination of smaller alterations with larger releases. In fact, through 2007, many ITOGs will extend/use their enterprise change-management process for release-management functions. Because change and release management share many of the same activities (e.g., requests, risk assessment, scheduling, distribution), it is logical that releases could be viewed as top priority changes.
- The help desk is a key interface between the IT organization and users and is typically the first to be notified when an implemented release negatively affects users (e.g., an application produces incorrect/duplicate data as a result of changes to the applications reporting). Our research indicates that release-management best practices include notification of the help desk before larger alterations are made to the IT environment. Help-desk awareness of problems resulting from releases will result in not only better handling of problem tickets, but also the collection of release metrics. Fewer than 10% of ITOGs currently have their help desks integrated with their release-management process, a figure that will increase to approximately 45% by 2008.
- Configuration management is a process that identifies how various IT items (e.g., hardware, software, service-level agreements, components, documentation, databases, policies/procedures) are linked together within the IT environment. As a result, configuration management is a key process for effective assessment of release risk, release authorization, and change tracking, because it acts as a catalog of potential impact and a primary source of change knowledge. Fewer than 1% of organizations perform configuration management beyond simple desktop, server, and network configuration, significantly limiting the potential of the IT ops groups to effectively execute releases.

- Demand management/request management is another process integration point that often limits the ability of ITOGs to effectively manage IT releases. Because IT releases are initiated throughout the IT environment (e.g., application development, infrastructure/operations), it is imperative that ITOGs communicate expectations (e.g., change time frames, potential service-level impacts), properly assess the request (e.g., feasibility, authorization by a supervisor), and work with the requester to identify potential release options. Through 2008, ITOGs will see increased use of the business relationship management role to facilitate the communication of release activity.

Major Release-Management Roles and Responsibilities

Although there are many roles and responsibilities involved in the release-management process overall (e.g., project management, SMB risk assessments, logging of release/change requests), the following tend to be the key responsibilities that are essential to the overall success of the release-management process:

- **Process owner:** He or she has primary responsibility for designing the process and auditing compliance/process efficacy. Primary responsibilities include the following:
 - Designing the process
 - Reviewing process compliance
 - Auditing process efficiency
 - Reviewing the process for improvement potential
- **Release/change coordinator:** The release coordinator is responsible for maintaining the release logs and coordinating general release information. Primary responsibilities include the following:
 - Coordinating communication
 - Maintaining documentation
 - Identifying daily consistency issues
- **Release manager:** He or she plays the essential role with regard to releases. Primary responsibilities include the following:
 - Filtering requests
 - Setting initial prioritization
 - Authorizing/scheduling releases
 - Accepting final release reviews

Identifying Business-Relevant Performance Measures

A recent META Group survey found that more than 55% of ITOGs consistently measure the performance of their IT shops. Fewer than 15% of ITOGs have a readily available list of IT performance metrics that they can show to their LOBs, and of those that do, roughly 95% report efficiency metrics only (e.g., mean time to backup, mean time to recovery, percentage of allocated disk storage). Indeed, our research indicates that fewer than 5% of IT groups are capable of relating their IT operational performance with the performance of the business groups they serve.

There are three primary areas of release-management measurement: basic trend information; whether the process is being performed well; and whether the process itself is a good process.

Basic trend information

- Number of releases implemented in the period
- Number of releases by type
- Number/percentage of releases scheduled and executed on time

Numerous performance measures identify whether a process is being performed properly, consistently, and repeatably. These measures tend to identify process handoff success (e.g., percentage of releases resulting in a call to the service desk) as well as general process performance and adherence (e.g., percentage of releases backed out).

Process performance measures

- Number/percentage of successful/unsuccessful releases
- Number/percentage of releases backed out
- Number/percentage of releases resulting in a problem/incident

- Number/percentage of release requests rejected

In addition to basic trend and process performance measures, ITOGs should prepare to capture measures relating to overall process quality. The point is that, though the previous measures identify how well the process is performed, they do not indicate whether the process itself is good. In 2004, we began seeing preliminary process quality measurement (e.g., percentage of releases outside the normal release process) used to assess overall process quality in addition to performance.

Process quality measures

- Number/percentage of releases outside the normal release process
- Number of IT personnel/groups required per release
- Cost per release

Release-Management Improvement Targets

Many IT organizations fail to realize definitive ROI in relation to their release-management improvement efforts unless they capture a performance baseline prior to their improvement effort and set realistic improvement targets to assess success. Through 2004, ITOGs working to improve their release-management processes should set realistic improvement targets, not necessarily attempt to place a dollar value on the improvement effort. The following is a sample list of release-management improvement targets:

- Reducing problems as a result of releases
- Reducing the cost of releases by 10%
- Raising awareness by operations of releases at least two weeks prior to the release to at least 90%
- Reducing the number of releases that have to be backed out by 5%
- Reducing the number of releases that go through the urgent change process by 20%

Bottom Line

IT operations groups struggling with “releases” into their production environments must formalize and adopt activities that facilitate both release planning and distribution activities. Release processes enabling improved notification, risk assessment, prioritization, and testing will prove most effective.

Business Impact: Through 2008, effective IT release management will require increased attention to risk planning and communication, release scheduling, and enterprisewide quality. IT operations groups should expect their release activities to be highly manual, with success driven by process activity integration.