# Guaranteeing Production Readiness *Prior* to Application Deployment

By: Harris Kern's Enterprise Computing Institute

What a novel concept. Actually ensuring a new application system is completely production ready *before* it gets deployed. In this article, we go far beyond the typical recommendations of testing and documentation. Read about numerous practical tips to guarantee first-time successful deployment of new applications. (This article is adapted from Rich Schiesser's book *IT Systems Management: Designing, Implementing, and Managing World-Class Infrastructures* (Prentice Hall, 2002, ISBN 0-13-087678-X).

No matter how well designed and well tested an application may be, the first—and often lasting—impressions that users form about that application come from how successfully it is deployed into production. Developers and operations personnel sometimes let unnecessary obstacles take their eyes off the goal of a successful deployment. This article discusses each of the 14 steps required to design and implement an effective production acceptance process.

**Step 1: Identify an Executive Sponsor.**

Production acceptance is one of a handful of systems management processes that directly involve departments outside of the infrastructure group. In this case it is the applications development area that plays a key role in making this process effective. An executive sponsor is necessary to ensure ongoing support and cooperation between these two departments. Depending on the size and scope of the IT organization, the sponsor could be the CIO, the head of the infrastructure group, or some other executive in the infrastructure.

Note that an application manager could be an excellent sponsor providing the head of the infrastructure agrees with the selection. In this case, the executives from both the applications and infrastructure departments should concur on the choice of process owner, who needs to be from the infrastructure group. In general, the higher the level of executive sponsor the better. It should be noted that senior executives are usually more time constrained than those at lower levels, so support sessions should be well planned, straightforward, and to the point.

The executive sponsor must be a champion of the process, particularly if the shop has gone many years with no structured turnover procedure in place. He or she needs to be able to persuade other executives both inside and outside of IT to follow the lead. This individual is responsible for providing executive leadership, direction, and support for the process. The executive sponsor is also responsible for selecting the process owner, for addressing conflicts that the process owner cannot resolve, and for providing marketing assistance.

**Step 2: Select a Process Owner.**

One of the first responsibilities of the executive sponsor is to select the production acceptance process owner. The process owner should be a member of the infrastructure organization since most of the ongoing activities of operating and supporting a new production application fall within this group. This person will be interacting frequently with programmers who developed and will be maintaining the system.

This continual interaction with applications makes a working knowledge of application systems an important prerequisite for the process owner. Being able to evaluate applications documentation and to

communicate effectively with program developers are two additional characteristics highly recommended in a process owner.

**Step 3: Solicit Executive Support.**

Production acceptance requires much cooperation and support between the applications development and infrastructure departments. Executive support from both of these departments should be solicited to ensure that policies and decisions about the design of the process are backed up and pushed down from higher levels of management.

**Step 4: Assemble a Production Acceptance Team.**

The process owner should assemble a cross-functional team to assist in developing and implementing a production acceptance process. The team should consist of key representatives from the development organization as well as those from operations, technical support, capacity planning, the help desk, and database administration. In cases where the development group is larger than a few hundred programmers, multiple development representatives should participate.

It is important that all key areas within development be represented on this team to ensure support and buy-in for the process. Appropriate development representatives also ensure that potential obstacles to success are identified and resolved to everyone's satisfaction. An effective executive sponsor and the soliciting of executive support (steps 1 and 3) can help to ensure proper representation.

At one company where I managed a large infrastructure group, there were over 400 programmers in the development department grouped into the four areas of finance, engineering, manufacturing, and logistics. A representative from each of these four areas participated in the development of a production acceptance procedure; each brought unique perspectives, and together they helped to ensure a successful result to the process.

**Step 5: Identify and Prioritize Requirements.**

Early in my career I participated on a number of production acceptance teams that fell short in providing an effective production turnover process. In looking for common causes for these failed attempts, I noticed that in almost every case there were no agreed-upon requirements at the start; when there were requirements, they were never prioritized.

Later on as I led my own production acceptance design teams, I realized that having requirements that were prioritized and agreed upon by all participants added greatly to the success of the efforts. Requirements will vary from company to company, but some common to most shops are ensuring all key areas are represented early on, ensuring capacity-gathering requirements are compatible with the capacity planning process, providing training and documentation on the application to operations weeks prior to deployment, developing and enforcing management policy statements, and resisting the temptation to set up a separate help desk for each new application.

**Step 6: Develop Policy Statements.**

The cross-functional team that develop policy statements for a production acceptance process should be developed by and approved by the executive sponsor. This will help to ensure that compliance, enforcement and accountability will be issues that are supported by senior management and communicated to the applicable levels of staffs.

**Step 7: Nominate a Pilot System.**

When a production acceptance process is designed and implemented, particularly in environments that have never had one, there is normally a major change in the manner in which application systems are deployed. Therefore, it is usually more effective to introduce this new method of production turnover on a smaller scale with a minimal-impact pilot system. If a small system is not available as a pilot, consider putting only an initial portion of a major system through the new process.

**Step 8: Design Appropriate Forms.**

During the requirements step, the cross-functional team will normally discuss the quantity, types, and characteristics of forms to be used with a production acceptance process. Shops occasionally elect to combine some or all of these forms depending on their complexity. In addition to the primary production acceptance form, other common types used in this process include:

- capacity form for periodic updates to resource requirements;
- customer acceptance form for user feedback prior to deployment;
- help desk form is for anticipated calls during start-up;
- test plan for developers to demonstrate function and performance of the new system;
- lessons-learned form for follow-up and improvements after full deployment of a new system.

The forms are proposed, designed, and finalized by the team. Specific requirements of the form will vary from shop to shop, but the form should always be simple, thorough, understandable, and accessible. Many shops today keep forms like these online via their company intranet for ease of use and access.

**Step 9: Document the Procedures.**

The documentation of any systems management process is important, but it is especially so in the case of production acceptance because such a large number of developers will be using it. The documentation for these procedures must be effective and.

**Step 10: Execute the Pilot System.**

With a pilot system identified, forms designed, and procedures in place, it is time to execute the pilot system. User testing and acceptance plays a major role in this step, as does the involvement of support groups such as technical support, systems administration, and the help desk.

**Step 11: Conduct a Lessons-Learned Session.**

In this step the process owner conducts a thorough, candid lessons-learned session with key participants involved in executing the pilot system. Participants should include representatives from the user community, development area, support staff, and help desk.

**Step 12: Revise Policies, Procedures, and Forms.**

The recommendations resulting from the lessons-learned session may include revisions to policies, procedures, forms, test plans, and training techniques for users and support staff. These revisions should be agreed to by the entire cross-functional team and implemented prior to full deployment.

**Step 13: Formulate Marketing Strategy.**

Regardless of how thoroughly and effectively a cross-functional team designs a production acceptance process, it does little good if it is not supported and applied by development groups. Once the final policies, procedures, and forms are in place, the process owner and design team should formulate and implement a marketing strategy. The marketing plan should include the benefits of using the process; the active support of the executive sponsor and peers; examples of any quick wins as evidenced by the pilot system; and testimonials from users, help desk personnel, and support staff.

**Step 14: Follow-up for Ongoing Enforcement and Improvements.**

Improvement processes such as production acceptance often enjoy much initial support and enthusiasm, but that sometimes becomes short-lived. Changing priorities, conflicting schedules, budget constraints, turnover of staff or management, lack of adequate resources, and a general reluctance to adopt radically new procedures all contribute to the de-emphasis and avoidance of novel processes. One of the best ways to ensure ongoing support and consistent use is to follow up with reviews, postmortems, and lessons learned to constantly improve the overall quality, enforcement, and effectiveness of the process.

**Full Deployment of a New Application**

By this point the production acceptance process should be designed, approved, documented, tested, and implemented. So when does the new application become deployed? The answer is that the process of developing the process does not specifically include the deployment of a new application. When the production acceptance process is applied, it will include all of the activities leading up to the actual deployment. If all of the tasks outlined by the process are completed on time for any new application, its successful deployment is all but guaranteed.

One of the key aspects of this entire process is the involvement of the infrastructure group early on. The development manager who owns the new application should notify and involve the production acceptance process owner as soon as a new application is approved. This ensures infrastructure personnel and support staff are given adequate lead time to plan, coordinate, and implement the required resources and training prior to deployment. Just as important is the follow-up and lessons-learned portion of the process, which usually occurs two to three weeks after initial deployment.

**Distinguishing New Applications from New Versions of Existing Applications**

Users of a new process understandably will have questions about when and how to apply it. One of the most frequent questions I hear asked about production acceptance is: Should it be used only for new applications, or is it for new versions of existing applications as well? The answer lies in the overall objective of the process that is to consistently and successfully deploy applications into production.

A new version of an existing application will often have major changes that impact customers and infrastructure groups alike. In this case, deploying it into production will be very similar to deploying a new application. Test plans should be developed, customer acceptance pilots should be formulated, and capacity requirements should be identified well in advance. The guideline for deciding when to use production acceptance is this: Determine how different the new version of the system is from its

predecessor. If users, support staff, and help desk personnel are likely to experience even moderate impact from a new version of an existing application, then the production acceptance process should be used.

**Distinguishing Production Acceptance from Change Management**

Another question I frequently hear is: How does one distinguish production acceptance from change management, since both seem to be handling software changes? The answer is that production acceptance is a special type of change that involves many more elements than the typical software modification. Capacity forecasts, resource requirements, customer sign-off, help desk training, and close initial monitoring by developers are just some of the usual aspects of production acceptance that are normally not associated with change management. The other obvious difference between the two processes is that, while production acceptance is involved solely with deploying application software into production, change management covers a wide range of activities outside of production software such as hardware, networks, desktops, and facilities.

Employing the 14 steps described above, involving the appropriate infrastructure teams early on, understanding the differences between new applications and application upgrades, and distinguishing production acceptance from change management can help guarantee your successful deployment of new applications the first time, every time.