



Enterprise Release Management

Intel shares successful enterprise application release methods

Intel's TRIaD team formed in 1997 to implement enterprise resource planning (ERP) software releases. Since then, we have evolved and now we implement all ERP-related application releases. In this paper, TRIaD shares Intel's best-known methods developed to facilitate these successful enterprise releases.

February 2003

Overview

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Release management group establishes a repeatable process to move applications into production
- **Target audience**
Project groups, application development groups, infrastructure groups, security teams, and production support groups at Intel
- **Process development motivation**
Collision avoidance among applications and between applications and infrastructure
- **Scope**
Occurs during an enterprise release or a major project upgrade and is used to facilitate a temporary site shutdown
- **Associated processes**
 - Change management process
 - Enterprise release planning process



When an IT organization deploys a major enterprise release or project upgrade within the corporation it supports, efficient release management processes can help ensure a successful deployment and satisfied customers.

To support the enterprise resource planning (ERP) 3.0x implementation at Intel, Intel IT's Test, Training, Release, Implementation, and Deployment (TRlaD) team developed a set of effective release management processes to prepare application project teams for infrastructure deployment. We documented them as a set of best-known methods (BKMs) for other deployments to follow. Based on our success, TRlaD's responsibilities have grown to incorporate all ERP-integrated application releases at Intel.

The TRlaD team begins the release management process when applications enter the consolidated testing (CONS) phase, and continues through the implementation, deployment, and stabilization phases. A TRlaD sub-team called the Enterprise Release Management team performs many release management tasks, including those occurring before consolidated testing.

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TRiAD cooperates with the following Intel teams to complete release management tasks occurring before and after CONS:

- Migration Services group
- Environment Management team
- Technical Integration Group (TIG)
- Release Enterprise Planning (REP) team
- Training Support Services (TSS)
- Participating Project, Application Development, Security, and Production Support teams
- Various affected Intel businesses

Target audience

Application Development, Infrastructure, Production Support, and Security teams across Intel use this process to release enterprise-wide enterprise resource planning (ERP) applications.

Process development motivation

Before 1997, the test and release schedules of many integrated applications at Intel conflicted with each other. Collisions also occurred after integrated applications were released. Intel factories felt the impact most, and these groups brought attention to this issue.

Scope

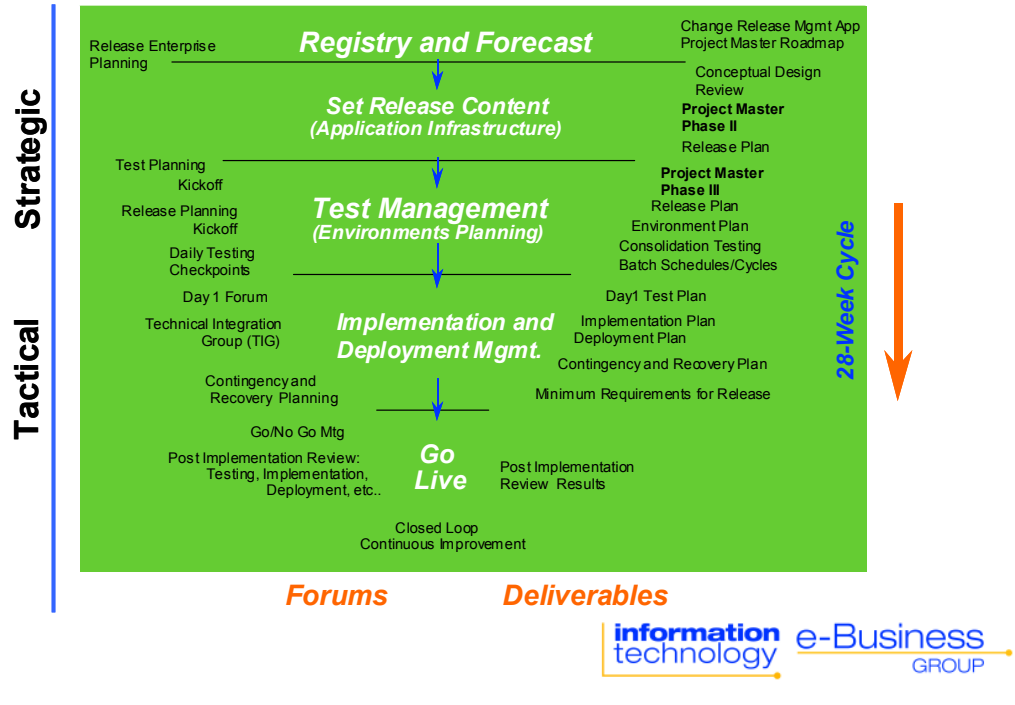
In this paper, an “enterprise release” refers to the simultaneous deployment of numerous interrelated applications. For example, migrating all ERP applications from one version to another is considered an enterprise release.

Associated processes

The **change management** process precedes the release management process. TRiAD closely manages changes to applications, operating environments, user interaction, and support during a release. We also use what we learn during a release to improve the process next time.

Enterprise release planning also precedes the release management process. During this planning phase, TRiAD schedules applications for release, establishes available release dates, identifies resource constraints, and obtains management approval for the upcoming release.

Background



The release process has five phases.

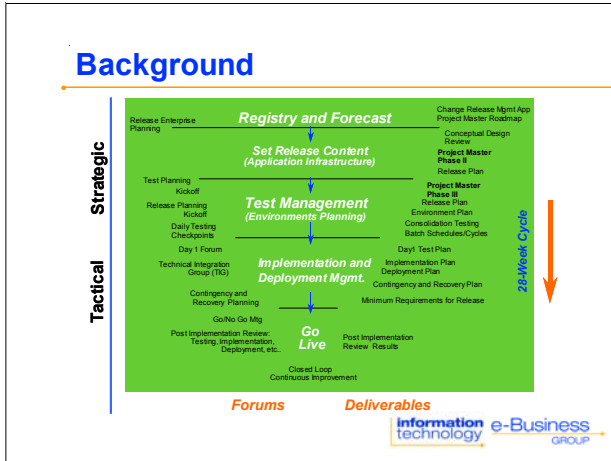
In the **Registry and Forecast** phase, a Release Enterprise Planning (REP) team develops a roadmap showing which applications are releasing concurrently. REP representatives assemble from various application projects to collect release details and approve release dates.

During the **Set Release Content** phase, change implementation board forums co-develop a project master defining changes that the application release triggers. TRIaD's Enterprise Release Management team examines this information to determine release management headcount needs and align resources to projects or application development teams. Next, TRIaD develops a release plan.

TRiAD launches two routine meetings during the **Test Management** phase. Test-team leads meet to identify test resource requirements such as cross-project testing and batch requirements for the projects. They also meet to gather test environment requirements to help ensure application collisions don't occur.

During the **Implementation and Deployment Management** phase, the Enterprise Release Management team creates and tracks project checklists, downtime and conversion requirements, Day 1 Test simulation requirements, and production requirements. Day 1 Test

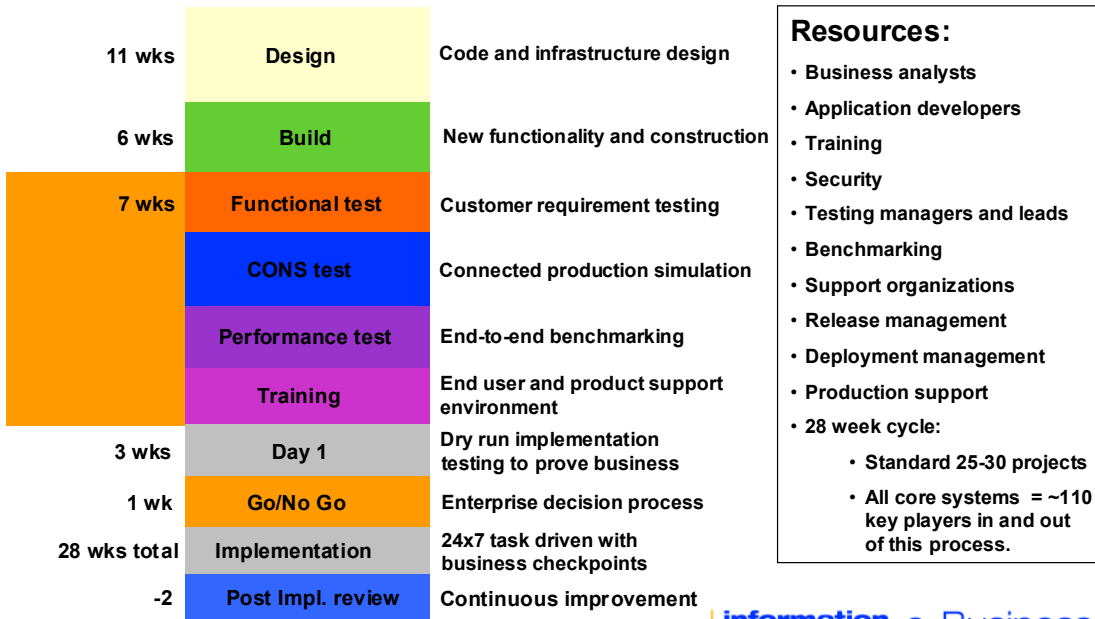
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simulates task execution on the first day of production. During this time, communication forums notify affected business groups of scheduled downtimes. We also hold “Go/No Go meetings” to determine whether an application is ready to go into production.

During the **Go Live** phase, TRIaD releases applications into production. Enterprise release managers hold Checkpoint meetings and communicate status to management. Immediately following implementation, TRIaD holds Stabilization meetings in which we monitor the implementation success. Several days later, we hold a post implementation review session to gather feedback and use it to improve the process for the next release.

Timelines



- Resources:**
- Business analysts
 - Application developers
 - Training
 - Security
 - Testing managers and leads
 - Benchmarking
 - Support organizations
 - Release management
 - Deployment management
 - Production support
 - 28 week cycle:
 - Standard 25-30 projects
 - All core systems = ~110 key players in and out of this process.



This shows the application timeline and its associated steps. The **Resources** section identifies which resources and organizations are employed during each phase.

Goals and Objectives

- **Ensure applications and infrastructure are ready for production**
- **Provide tools and support for a successful implementation**
- **Provide appropriate development and test environments**
- **Prepare the business for applications and/or infrastructure deployment**
- **Test applications and infrastructure together in a consolidated environment**



Ensure applications and infrastructure are ready for production

- Estimate and measure system downtime duration per application and/or infrastructure implementation.
- Develop the project plan and identify the critical path.
- Plan for contingency and recovery.
- Monitor applications and infrastructure using Checklists and Go/No Go meetings.

Provide tools and support for a successful implementation

- Gather application and infrastructure requirements.
- Execute tasks to meet training schedule. This is called performance against schedule (PAS).

Provide appropriate development and test environments

- Utilize application and infrastructure requirements to avoid future collisions in the operating environment.
- Manage the development and testing schedule.

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Prepare the business for applications and/or infrastructure deployment

- Communicate downtime requirements to Intel businesses and request their approval to schedule it.
- Measure implementation success through Stabilization meetings.

Test applications and infrastructure together in a consolidated environment

- Measure application discrepancies.
- Resolve all showstoppers prior to production.

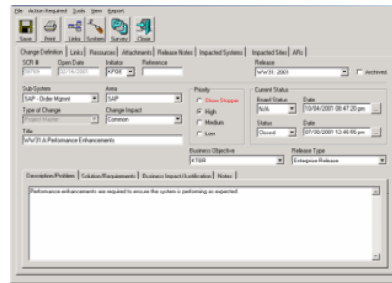
Enterprise Release Management Best-Known Methods (BKMs)

1. Develop Release Management Plan
2. Develop Release Milestones
3. Prepare for Enterprise Release
4. Manage Day 1 Test
5. Manage Technical Integration Group
6. Implement Enterprise Release
7. Assess Enterprise Release Success
8. Assess Enterprise Release Success Indicators
9. Manage Training Support Services
10. Manage Migrations
11. Manage Environments
12. Manage Release Deployment
13. Facilitate Enterprise View of Post-Release Stabilization

1. Develop Release Management Plan

Prerequisites

- **Begin release enterprise planning**
- **Create Project Master document using Intel's internal change management application (CRMA)**
- **Query and review Project Master data using CRMA tool**



- **Develop list of applications or projects being released**
- **Create application release representative list using Project Master**
- **Create an Affinity Diagram**

The REP team sets the application release date and then creates a Level 1 list comprising those functions most important to internal users. The Enterprise Release Management team then monitors the progress of these high-priority functions throughout the release cycle.

Intel developed an internal change management process tool that we call Change and Release Management Application (CRMA). This process starts with a Project Master document that captures:

- Description and requirements of each application change.
- Business, project and application impact caused by the change.
- Special requirements, such as extensive interface testing.
- Number of cycles in which the interface must be tested.

The enterprise release manager leads the Enterprise Release Management team and this position rotates among the release managers. Each release manager heads a designated Project, Application Development, and Support team.

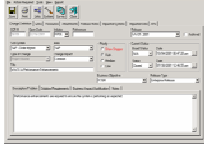
The enterprise release manager queries CRMA for information in two ways: by release workweek (WW) and by using a Project Master System Change Request. CRMA extracts the

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1. Develop Release Management Plan

Prerequisites

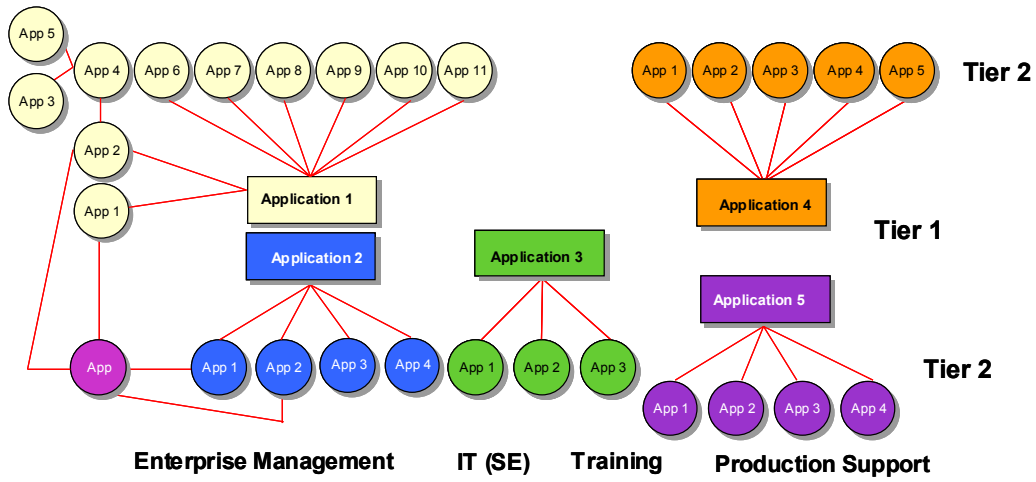
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requested data and imports it into a formatted spreadsheet application. The Enterprise Release Management team reviews this data to identify application and support changes. Some application releases do not fall under the team's focus, but the members still review them to ensure no collisions occur among applications during testing and release schedules and following deployment.

Affinity Diagram



An Affinity Group is a logical grouping of applications or projects that share dependencies or data. An Affinity Diagram displays the logical grouping for a given release.

In this example, the linked circles indicate interrelated projects and environments.

The five applications in this diagram indicate that five release managers support this release.

2. Develop Release Milestones

- Determine workweeks and dates for milestones

DRAFT Rev. 2 -- Milestones for WW35/2002 Release						
Milestone	Owner	Impacted	WW	Day	Date	Trmpit
Draft of Milestones Document Ready for Review	TRiAD	Projects	10.1	Mon	3/4	-25
Register Project -- CRMA PM	ECMB	Projects	12.1	Mon	3/18	-23
Resource Requirements Freeze	REP	Projects	12.5	Fri	3/22	-23
Day 1 Test Complete	TRiAD	All	33.5	Fri	8/16	-2
Publish Tested Consolidated Downtime	TRiAD	All	33.5	Fri	8/16	-2
Final Contingency and Recovery Plan Due	TRiAD	All	33.5	Fri	8/16	-2
Deadline for Production Batch Schedule	EAPS	Schedule	33.5	Fri	8/16	-2
Prod Cutover Build List in 'R' Status -- 1700	Projects	TDI	33.5	Fri	8/16	-2
Run Prod Prestage Migrations -- 0800	TDI	Projects	34.1	Mon	8/19	-1
Begin Prod Prestage Data Conversions -- 1700	Projects	Projects	34.1	Mon	8/19	-1
Prod Cutover Build Page posted -- 1400	TDI	Projects	34.3	Wed	8/21	-1
Prod Cutover Build Page approved -- 1200	TDI	Projects	34.4	Thu	8/22	-1
FeBs No Conversions or new code after 0800 to protect Monthly	FeBS	All	34.4	Thu	8/22	-1
Prod Pre-stage Data Conversions complete -- 1500	Projects	Projects	34.4	Thu	8/22	-1
FINAL GO/NO GO for Implementation	TRiAD	All	34.4	Thu	8/22	-1
Production Implementation	TRiAD	All	35.0	Sun	8/25	0
Post Implementation Review	TRiAD	All	35.4	Thu	8/30	1

- Validate and update milestones owned by groups such as Security, Release Enterprise Planning, Production Support, Technical Data Integration, etc.
- Review milestones with TRiAD team for buy-off and update as necessary
- Obtain initial buy-off from project or applications managers
- Post draft of Milestone document to the internal Release Management Web page



Approximately 26 weeks before a scheduled release, the enterprise release manager begins developing the release milestones, which help us measure our progress on the production timeline.

The Enterprise Resource Management team uses this document to communicate and track release tasks to the Project, Application Development, Security, and Production Support teams. Each milestone has an owner and identifies any groups its completion impacts.

Using a copy of the previous release Milestones document, the enterprise release manager revises dates to reflect the current release. For example, if the release is WW35, this means the implementation is on Sunday of WW35. The final Go/No Go decision is made one week prior to Release Date, so for a WW35 release, the Go/No Go meeting is held WW34.1 (.1 means Monday, .2 means Tuesday, and so on).

The Enterprise Release Management team distributes copies of the Milestones document to all stakeholders asking whether the dates are correct or need to be changed due to other requirements. The enterprise release manager makes any necessary updates.

The TRiAD team reviews and approves the final draft. Then they publish the Milestones document to our internal Release Management Web page.

3. Prepare for Enterprise Release

Enterprise Release Kickoff Meeting

- Schedule Enterprise Release Kickoff meeting using online and Web-based calendaring tools
- Schedule conference rooms and phone bridges
- Create Affinity Diagram and “Known Areas of Concern” document
- Create Enterprise Release Kickoff presentation and publish it to the internal Release Management Web page
- Hold Enterprise Release Management Kickoff meeting and then publish meeting minutes



Enterprise Release Kickoff meeting

TRiAD schedules an Enterprise Release Kickoff meeting to bring stakeholders together and communicate release details to them.

We schedule this meeting using online and Web-based calendaring tools so upper management can attend the meeting remotely or in person. We invite release representatives from all the organizations involved.

We reserve conference rooms in an effort to centralize participants at a given location, provide face-to-face contact, and increase participation. A telephone bridge joins all locations together.

To develop the presentation for this meeting, the enterprise release manager:

- Documents the objectives of the release.
- Uses Project Masters to outline projects and application functionality.
- Identifies representatives for Project, Application Development, and Support groups.
- Includes an Affinity Diagram.
- Creates a “Known Areas of Concern” document.

An Affinity Diagram shows attendees what meetings they need to attend and the release

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manager with whom they will be working. A Known Areas of Concern document lists concerns such as the possibility of a long downtime or whether multiple applications are running simultaneous conversions on the same server.

During the meeting, the enterprise release manager:

- Facilitates discussion.
- Confirms milestones and agrees to communicate changes.
- Captures open issues and action requests (ARs).
- Solicits feedback, including concerns.

The meeting minutes summarize the presentation and list assigned ARs. The manager documents agreements made during the meeting and captures any feedback or recommendations for future releases. The enterprise release manager publishes the presentation and meeting minutes to the internal Release Management Web page.

4. Manage Day 1 Test

- **Schedule and hold Day 1 Kickoff meeting**
 - **Generate Application Unavailability document (downtime forecast)**
 - **Formalize application unavailability and generate a graphic representing key dates (release managers supply applicable information)**
- **Schedule and hold Enterprise Day 1 meeting**
- **Schedule and hold All Hands on Deck meeting**
- **Schedule and hold Day 1 Test**
 - **Document test completion**
 - **Determine test success**

Day 1 Kickoff meeting

On Day 1, Test TRIaD simulates the tasks that we execute on the first day of production. But first, we hold a Day 1 Kickoff meeting for participants to plan for Day 1 Test.

Before the meeting, the enterprise release manager:

- Schedules the meeting using online and Web-based calendaring tools.
- Reviews project and application cross dependencies to find discrepancies.
- Creates a graphic to illustrate downtime impact so that TRIaD's deployment manager can forewarn affected businesses.
- Determines if project, application, and support groups must be logged off before performing the tasks.

During the meeting, the enterprise release manager:

- Reviews the agenda and defines the Day 1 Test schedule.
- Sets participant expectations, including phone bridge purpose and etiquette and requires onsite participation for Day 1 Test.
- Facilitates the discussion, tracks ARs, and takes meeting minutes.

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- Monitors tasks from Project, Application Development, and Support groups and identifies dependencies.
- Provides time for open issues and requests feedback on whether the level of detail is appropriate. Feedback is also used to improve the next release.

Enterprise Day 1 meeting

The Enterprise Day 1 meetings provide a forum in which we can identify dependencies across projects and systems.

To prepare for Enterprise Day 1 meetings, the enterprise release manager uses online and Web-based calendaring tools to invite Project, Application Development, and Support team representatives. The manager also reviews Day 1 Test Checklists, expectations, and tasks and then generates a Gantt chart and a Checkpoint meeting document. The Checkpoint meeting document tracks three-hour intervals at which management calls into meetings to obtain release status, find out which tasks should be in progress, and which tasks are coming up. This document also serves as a quick reference so participants see when their tasks are scheduled and plan when they need to be on site.

Finally, the enterprise release manager publishes these documents to the internal Release Management Web page.

During Enterprise Day 1 meeting, the enterprise release manager:

- Tracks ARs.
- Reviews Gantt chart, Checklists, and the Checkpoint meeting document, focusing on the environment as a whole and on dependencies missed at the Project or Application Development level.
- Requests task clarification from the release managers for the Project, Application Development, and Support groups.
- Reviews dependencies within projects and across projects and systems.
- Provides time for open issues and assigns them to individuals for resolution.

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All Hands on Deck meeting

Day 1 Test participants attend this meeting. It occurs on a Thursday because the test normally occurs on a Monday. The enterprise release manager uses online and Web-based calendaring tools to invite application, project, and support representatives.

During the meeting, the enterprise release manager:

- Confirms Day 1 Test expectations such as being on site, bridge attendance, and charging pagers or cell phones.
- Reviews the purpose of the bridge and stresses bridge etiquette.
- Reviews the Checkpoint meeting documents.
- Announces “Go” for the Day 1 Test.

Day 1 Test

During Day 1 Test, we estimate downtime requirements. The Application Unavailability draft is still untested at this point, however, so we cannot confirm downtime dates until Day 1 Test is complete.

Day 1 Tests are charged with energy. The enterprise release manager verifies that the release managers are ready to begin and that participants executing the first group of tasks are on the phone bridge. The release managers call out tasks to their teams and document each task’s duration. They monitor tasks and if issues arise, the appropriate manager assigns all affected parties to a new phone bridge for resolution.

After completing Day 1 Test, the enterprise release manager e-mails a test status to all participants and management. The enterprise release manager also internally publishes the tested version of the Application Unavailability document and presents it to affected Intel businesses.

Based on Day 1 Test success, the project manager, enterprise release manager, or any of the release managers may request a Day 1 Test 2.

If we request a Day 1 Test 2, the process begins all over again without meetings. The teams restore the system to pre-test status and the enterprise release manager asks participants to clear their calendars. Then the manager updates the Checkpoint meeting documents and participants repeat Day 1 Test tasks.

5. Manage Technical Integration Group

Day 1 representatives now become Technical Integration Group (TIG) representatives

TIG representatives ask release managers to copy their respective checklists, roll the date and times, and reset durations based on actual tests

Enterprise release manager:

- **Rolls Day 1 meetings into TIG meetings**
- **Updates and review Checklists during TIG meetings**
- **Validates dependencies within and across projects**
- **Solidifies checklists six days before the release**
- **Publishes Checklist to the internal Release Management Web page**

The Technical Integration Group (TIG) at Intel makes last-minute changes to Day 1 Checklists. In most cases, the Day 1 participants move into the TIG role, but sometimes new participants are added at this point.

Existing Day 1 Checklists are copied and changed to reflect the new release data. These changes include dates, dependencies, durations, and resources.

Checklists are scrutinized if they differ significantly from what was performed in Day 1 Test because any changes after Day 1 Test may impact the production outcome.

The Checklists are solidified about six days before the release and published to the internal Release Management Web page on the Release date.

5. Manage Technical Integration Group, cont.

- Roll All Hands on Deck Material for Day 1 Test dates forward to match production dates
- Roll dates in Checkpoint meeting document forward to match current production date, then validate against release manager checklists
- Schedule All Hands on Deck Meeting using online and Web-based calendaring tools and invite all release participants
- Publish All Hands on Deck material to internal Release Management Web page
- Present All Hands on Deck material
- Conduct Go/No Go meeting

If management gives a Go decision, then the release is ready to go to production



The enterprise release manager updates and publishes the Checkpoint meeting document and All Hands on Deck material. The release manager presents the All Hands on Deck meeting and:

- Communicates expectations.
- Emphasizes phone bridge purpose and etiquette.
- Reviews the Checkpoint meeting document.
- Facilitates discussion.
- Provides time for open issues.

Managers often attend this meeting to show support for their teams and the process.

Hold Go/No Go meetings

We use the Go/No Go meetings to measure the progress of the project, application, and support teams as well as the readiness of the release process. The Go/No Go meetings are scheduled weekly and begin approximately three weeks prior to the release date.

The enterprise release manager:

- Identifies which Project, Application Development, and Support representatives need to participate.
- Schedules the Go/No Go meetings using online and Web-based calendaring tools.

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5. Manage Technical Integration Group, cont.

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- Gives representatives a deadline to update release details.
- Queries the CRMA tool for Go/No Go data and sorts by priority.
- E-mails participants a URL to access the Go/No Go Tool. This tool is Web-based and developed in-house.

The enterprise release manager also facilitates the Go/No Go meeting:

- Participants focus on the items not ready for a Go status.
- Attendees determine whether assistance is needed or what the impact is if a particular project or application is a No Go.
- When a project or application fulfills its documented requirements, we congratulate the attendees and give a supportive round of applause.

After each Go/No Go meeting, business and management stakeholders are asked for feedback on their teams' progress.

The last Go/No Go meeting is important because all the projects should have a Go Status. If they do, management gives a Go for production. If a project is in a No Go status but could possibly Go in a day or two, management may decide to hold additional Go/No Go meetings.

The enterprise release manager completes the following tasks during this step.

6. Implement Enterprise Release

1. Verify that release-day tasks and logistics are complete
2. Conduct All Hands on Deck meeting
3. Execute implementation per TIG plan
4. Update Technical Integration Group task status
5. Carry out Checkpoint meetings (checkpoints should occur every three hours)
6. Establish a team to resolve key issues
7. Provide food for all on-site participants working late hours
8. Complete production operations



Verifies that release-day tasks and logistics are complete

- Gives All Hands Release Day Presentation.
- Defines the enterprise schedule, set participant expectations, and facilitate discussion.
- Confirms Go status.
- Finalizes TIG Checklists.
- Secures migration and bundle lists.
- Obtains key contacts list.
- Completes room, security, and facility logistics.
- Provides food for participants.

Conducts All Hands on Deck meeting

We hold this meeting to verify that there are no last minute issues or questions.

Executes implementation per TIG plan

This task includes shutting down the systems, migrating functionality, and testing content.

Updates TIG task status

- The team communicates completion information to the enterprise release manager.
- The enterprise release manager updates the TIG plan online during the meeting.

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Carries out Checkpoint meetings

Update the status phone line.

Establishes team to resolve key issues

Assign alternate phone bridges for problem resolution.

Provides and manages food

This step is especially important when people work long hours on site.

Completes production operations

Continues through the Release Management process tasks.

The Post Implementation Review (PIR) process encompasses input from everyone who participated in the previous release.

7. Assess Enterprise Release Success

Intel uses a Web-based survey tool to request release input

Communications

1. Did you receive sufficient information concerning Dev deployment?
 Not applicable Dissatisfied Satisfied Very Satisfied Highly Satisfied

2. Did you receive sufficient information concerning Functional Testing?
 Not applicable Dissatisfied Satisfied Very Satisfied Highly Satisfied

3. Did you receive sufficient information concerning Cons Testing?
 Not applicable Dissatisfied Satisfied Very Satisfied Highly Satisfied

4. Did you receive sufficient information concerning DAY1 Testing?
 Not applicable Dissatisfied Satisfied Very Satisfied Highly Satisfied

5. Did you receive sufficient information concerning All Hands on Deck?
 Not applicable Dissatisfied Satisfied Very Satisfied Highly Satisfied

6. Did you receive proper hand offs within your pipe?
 Not applicable Dissatisfied Satisfied Very Satisfied Highly Satisfied



The enterprise release manager schedules the review meeting and requests input through a Web-based survey tool called the PIR tool. The manager consolidates this input and presents it during the meeting.

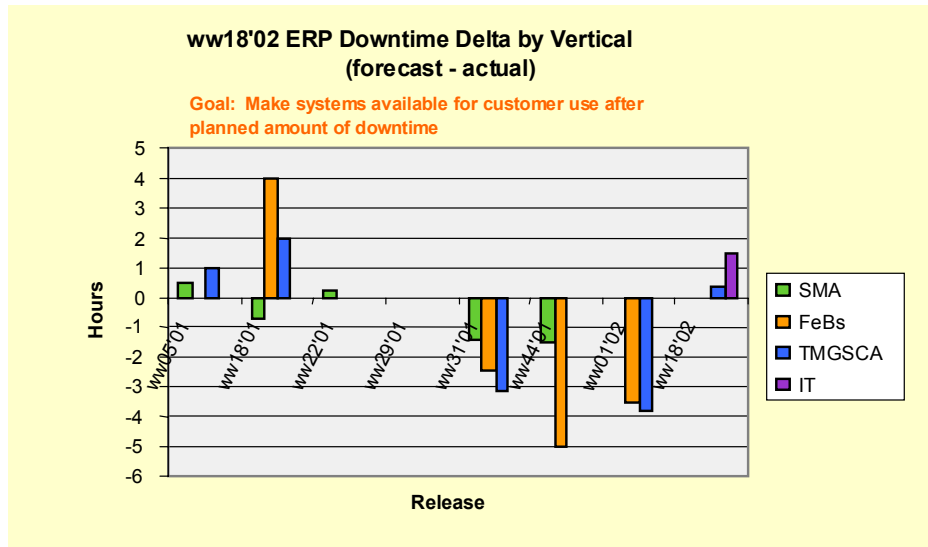
8. Assess Enterprise Release Success Indicators

Indicators

- Release downtime
- Production issues during stabilization period
- Day 1 Test preparation and execution
- Ticket volume (for issues)
- Process compliance

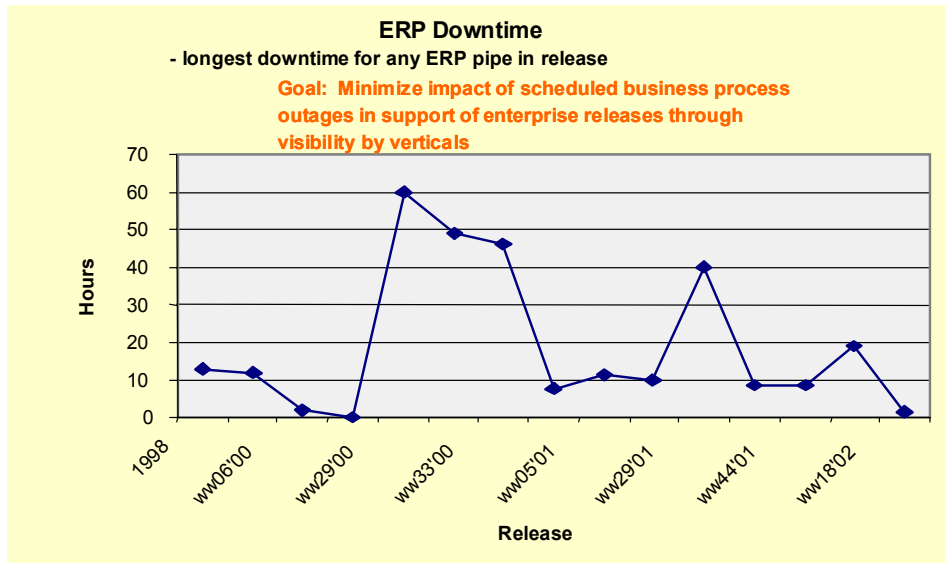
There are many ways to gauge release success. Each success indicator is described in more detail.

Release Success Indicators - Downtime Delta



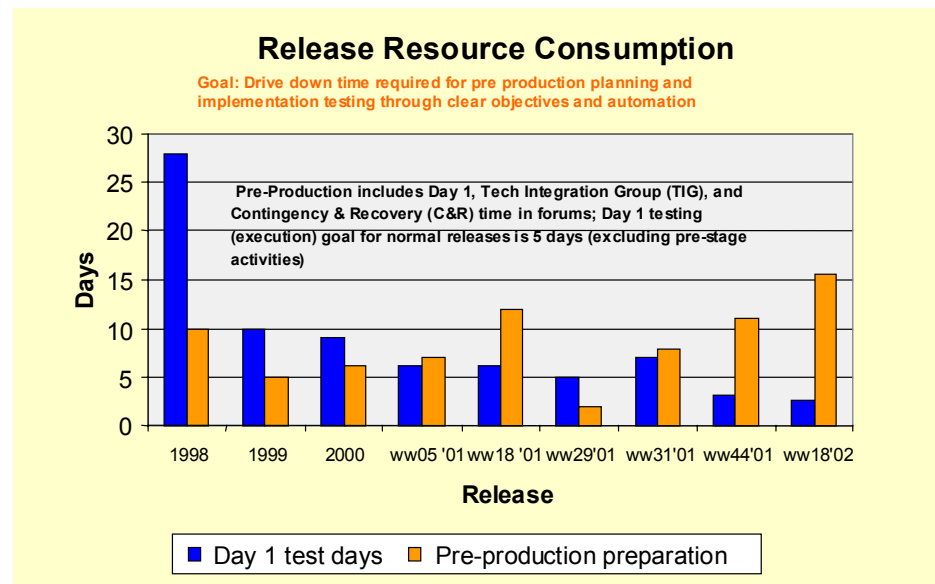
This view shows the delta between the downtime forecast and the actual downtime that the organizations experienced. The downtime delta displays vertically across releases to illustrate trends from one release to another. Most verticals have been successful since the WW18 release in 2001.

Release Success Indicators - Downtime Duration



This graph shows the release's longest downtime duration. This view displays the worst customer impact across multiple releases. The peaks in 2000 resulted from introducing major software releases that impacted the entire enterprise.

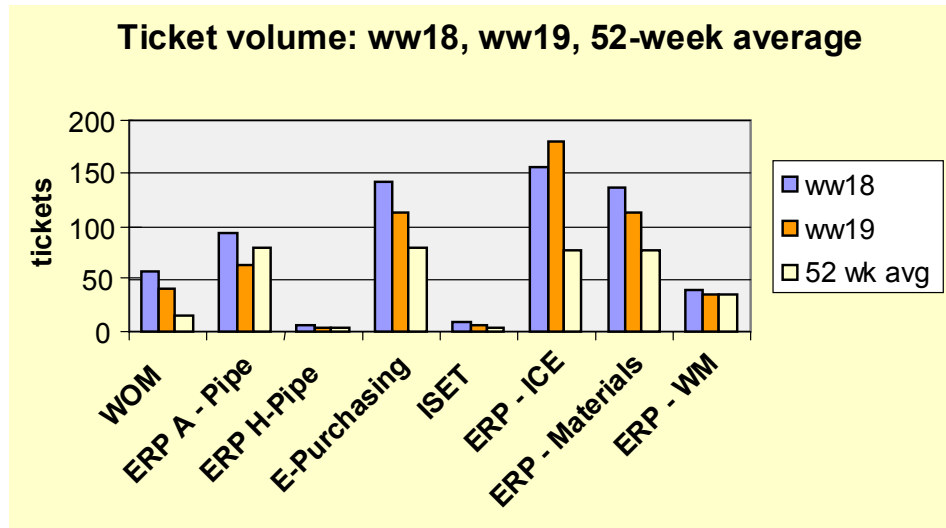
Release Success Indicators – Day 1 Resource Consumption



This graph lists the resources required to plan, prepare for, and execute Day 1 Test.

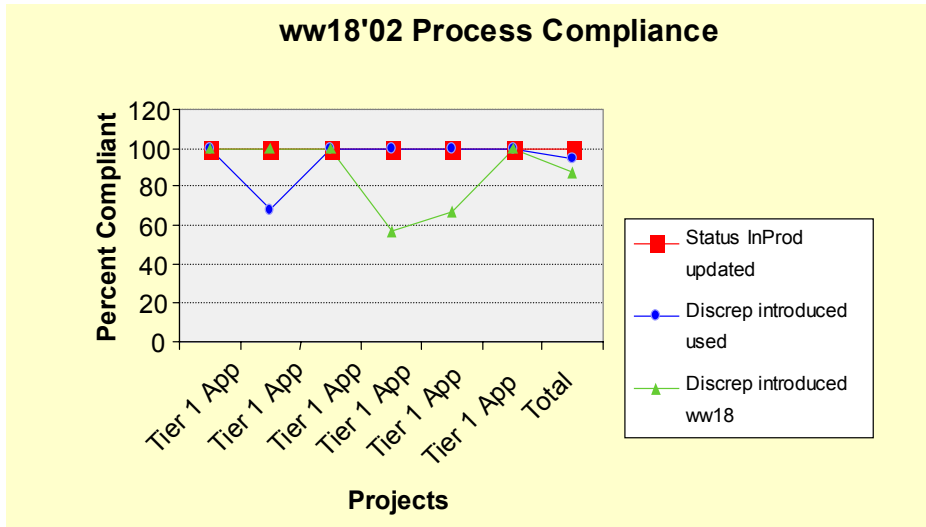
The Days Required axis includes teamwork session time to prepare for Day 1 Test as well as the actual time spent executing tasks.

Release Success Indicators – Post Release Ticket Volume



This graph compares the post-release production support ticket volume against the 52-week average in the weeks prior to the release. This view reflects the first two weeks following the release.

Release Success Indicators – Process Compliance



This graphic shows a process compliance indicator. In this case TRlaD scored three different process compliance aspects. We use this type of indicator to introduce a new process or change an existing process.

9. Manage Training Support Services

- **Create and track a training support services (TSS) project plan**
- **Support training environment for the release and to sustain training**
- **Communicate daily environment status and issues during implementation**
- **Develop and implement TSS projects**
- **Implement continuous process improvement**

Prerequisites

- **Support team must have business and technical knowledge**
- **Publish a training schedule**
- **Trainers identify and document data loading requirements**
- **Project teams identify and document new interfaces, remote function calls, and any necessary reports**
- **Document and publish all manual setup tasks**
- **Deliver training requirements in time for set up**



TRiAD sets up a training environment to support release, implementation, and sustaining training.

Areas of risk include those projects moving software code to CONS early and/or incomplete testing. When code moves to CONS, it automatically transfers to the training environment where trainers provide testing services. However, if code enters CONS too early or if it's inadequately tested, trainers must provide additional testing services, which impact their schedule.

Creating a comprehensive training schedule is crucial to manage tasks, set up teacher and student IDs, schedule the client copies, prioritize the data loading, and communicate critical training time windows to support organizations.

TRiAD requests that the Project team, trainers, Security team, and Application Development teams perform regular quality assurance checks on the environment.

Training environments are supported 24 hours a day, 7 days a week.

10. Manage Migrations

Successful migration components

- Development
- Code migration
- Environment landing validation
- Testing

Prerequisites

- Form migration services team
- Obtain approval for development
- Document proper change control (the online change manager does this)
- Ensure all changes have a system of record



The Migration Services group at Intel manages and coordinates all application changes as they progress through the path to production. To maintain the integrity of the change control process, this group must stay impartial. Four main components ensure a successful migration:

- Development
- Code migration
- Landing validation
- Functionality testing

Each component depends on its predecessor's success. Once a change begins, migration, validation, and test activities reoccur within each environment until the change enters production. At that point, testing functions merge and integrate with other functionalities. Migration Services also establishes and maintains processes and tools to keep the change control process intact and maintains production environment quality. The group focuses on completing the following critical test phases: functional, CONS, and Day 1 Test. Functional and CONS phases test the functionality while Day 1 Test checks the release execution.

11. Manage Environments

- Analyze new project requirements
- Develop and document environment strategy
- Plan system changes
- Facilitate data capture activities
- Ensure continuous process improvement

Prerequisites

- The production environment must be designed
- System change lifecycle must be established



The Environment Management team at Intel understands the current enterprise environment as well as upcoming technologies. This team aligns software development and IT roadmap environments by:

- Analyzing new project requirements.
- Planning system changes by integrating new requirements into the environment.
- Facilitating data capture and PC refresh activities.

These activities create and maintain environment baselines in support of release activities.

The Environment Management team identifies and schedules systems and applications that need testing.

TRiAD sets up new Checkpoint meetings to monitor the system testing preparation.

- Continually improving the environment. TRiAD works with business analysts and Application Development teams to successfully test applications. System changes include updates made to hardware such as PCs and network interface cards (NIC). It also includes software changes such as internally-developed code, kernel upgrades, and OS updates.

12. Manage Release Deployment

- Define deployment scope
- Assemble deployment resources
- Organize necessary forums
- Plan, organize, and deliver communications
- Manage teams to milestones and deliverables
- Implement continuous process improvement

13. Facilitate Enterprise View of Post-Release Stabilization

- Plan and execute Stabilization period
- Participate in daily project stabilization meetings
- Publish a consolidated daily issues list
- Publish consolidated post-release Stabilization period metrics

Stabilization is the period of time immediately following a release or implementation. TRIaD assigns qualified people to carefully monitor and resolve high-priority issues.

Each project team executes plans relating to the functionality for which they are responsible. The Enterprise Resource Management team works with the other teams to gather and publish consolidated reports and metrics for issues identified during Stabilization.

Results

- **Measurements**
 - Application unavailability (downtime) period
 - Production support issues
- **Intel's best-known methods (BKMs)**
 - Execute release management within applications
 - Collaborate with key application, infrastructure, and support groups
 - Use the Enterprise Change Management process
- **Examples in Action**
 - Work-week 18, 2002 Enterprise Release
 - Site shutdown



For more information

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