

TPG PPP 3.0 EN

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1 PPP Scheduler Changes

This update includes the following changes in this Scheduler components:

- Scheduler Core 
- Scheduler App 

1.1 Scheduler Base

This update includes the following changes in Scheduler Base:

- Bug Fix: Task Assignments Are Copied Correctly in Timephased Mode 
- Bug Fix: Effort Field Correctly Locked in Timephased Mode 

1.1.1 Bug Fix: Task Assignments Are Copied Correctly in Timephased Mode

Fixed an issue where assignment effort was not copied correctly when copying tasks that use the Timephased scheduling mode.

Task assignments are now copied as expected, ensuring that assignment effort is retained correctly in the newly created task.

1.1.2 Bug Fix: Effort Field Correctly Locked in Timephased Mode

Fixed an issue where copied tasks using the Timephased scheduling mode were not always converted correctly after being modified. In some cases, this could cause the Effort field to become editable at the task level, even though it should remain controlled by the timephased assignment data.

Tasks in Timephased mode now retain the correct scheduling behavior after being copied and modified, ensuring that the Effort field is handled as expected.

1.2 Scheduler Core

This update includes the following changes in Scheduler Core:

- [Check In and Check Out Projects for Exclusive Editing](#)  22
- [Import Actuals with Flexible Distribution Options](#)  23

1.3 Scheduler App

This update includes the following changes in Scheduler App:

- [Filter Resource Usage by Selected Tasks](#)  4
- [View Other Project Work in Timephased Tooltip](#)  5
- [See Resource Availability in Timephased Tooltip](#)  6
- [Configure Heatmap Colors and Background Rules](#)  7
- [Check In and Check Out Projects for Exclusive Editing](#)  22
- [Import Actuals with Flexible Distribution Options](#)  23
- [Edit Timephased Plans and Comments in Resource Utilization](#)  23
- [Automatic Post-Upgrade Configuration and Validation](#)  24

1.3.1 Filter Resource Usage by Selected Tasks

Resource analysis is now faster and more focused. When you select tasks in the Gantt chart, the Resource Usage view automatically filters to show only the resources and assignments related to those tasks.

- No task selected: The Resource Usage view shows all resources and assignments, as before.
- Single task selected: Only resources assigned to the selected task are displayed.
- Multiple tasks selected: Resources assigned to any of the selected tasks are displayed.
- Assignment filtering: Only assignments related to the selected task(s) are shown.

- Summary tasks supported: Selecting a summary task displays assignments from the entire task hierarchy beneath it.
- Real-time updates: The Resource Usage view updates automatically as task selections change.
- Seamless experience: Existing view settings such as expand/collapse state, custom columns, aggregations, and scroll position remain intact while filtering is applied.
- No additional controls required: Filtering works automatically without extra buttons, toggles, or status messages.

This enhancement helps project managers quickly analyze resource allocations for specific tasks without manually searching through the entire project plan, making resource reviews more efficient and intuitive.

1.3.2 View Other Project Work in Timephased Tooltip

Resource availability insights are now available directly in the Scheduler heatmap. By hovering over a resource or assignment, project managers can instantly see availability, allocated effort, and workload from other projects, helping them make better staffing and scheduling decisions.

- Enhanced tooltips provide detailed resource availability information for each time-phased period.
- View key metrics at a glance, including:
 - Resource or assignment name
 - Period dates
 - Allocated effort
 - Available capacity for the selected period
 - Work assigned in other projects
- Cross-project visibility helps identify potential resource conflicts by considering work allocated outside the current project.
- Aggregated resource tooltips are available even when viewing collapsed resource rows.
- Tooltip values use localized labels and consistent formatting, including support for hours and percentage-based availability displays.

Performance and usability

- Tooltip information updates automatically when project data changes.
- Workload information from other projects is cached during the session for fast response times.
- The current project is excluded from cross-project workload calculations to provide accurate availability information.
- If external workload information cannot be retrieved, availability data is still displayed to ensure uninterrupted use.

This enhancement brings Advanced Grid resource availability insights into the Scheduler, enabling project and resource managers to identify overallocations, understand true resource capacity, and make more informed scheduling decisions without leaving the Resource Utilization view.

1.3.3 See Resource Availability in Timephased Tooltip

Resource availability insights are now available directly in Scheduler tooltips. When hovering over a timephased cell, you can instantly see how much capacity a resource has available and how much work is already allocated for the selected period.

Availability details in tooltips help you evaluate resource capacity without leaving the Resource Utilization view.

Tooltips now display:

- Availability for the selected period
- Other work assigned to the resource during the same period

Available values are shown for both:

- Individual assignment rows
- Aggregated resource rows

Information is formatted consistently with Advanced Grid, including:

- Localized labels
- Two-decimal precision
- Support for both absolute values (hours/days) and percentage-based availability

Tooltips automatically update when project data or the current zoom level changes.

Improved planning experience

Resource availability information is displayed directly where scheduling decisions are made.

Benefits include:

- Quick identification of potential overallocation risks without switching views
- Immediate visibility into remaining capacity and competing workload
- Faster planning and decision-making

Tooltip calculations use cached allocation data to provide a smooth, responsive user experience, even in large projects.

Missing availability information is handled gracefully by displaying N/A where appropriate.

This enhancement brings Advanced Grid availability insights into the Scheduler Resource Utilization view, giving project managers immediate visibility into remaining resource capacity and competing workload while planning assignments.

1.3.4 Configure Heatmap Colors and Background Rules

Resource Utilization Availability Heatmap - Overview

The Resource Utilization Availability Heatmap provides visual indicators of resource capacity across your project timeline. Each bar in the Resource Utilization view is color-coded to show how much of a resource's available capacity remains, considering both work assigned in the current project and commitments in other projects.

This feature helps project managers quickly identify:

- Resources with available capacity (white/green)
- Resources approaching full utilization (yellow)
- Overallocated resources requiring attention (red)

How the Calculation Works

For each time period displayed in the Resource Utilization view, the system calculates:

Step 1: Determine Effective Capacity

- Takes the resource's total available hours based on their calendar
- Adjusts for the assignment percentage (e.g., 50% assignment = half the available hours)

Step 2: Calculate Remaining Capacity

- Starts with the effective capacity
- Subtracts hours assigned in the current project
- Subtracts hours committed in other projects
- Result = remaining available hours

Step 3: Apply Color Rules

- The remaining capacity is evaluated against configured thresholds
- A color is assigned based on which threshold range applies

Calendar Considerations: The system respects each resource's working calendar, including:

- Standard working days (e.g., Monday-Friday)
- Working hours per day
- Holidays and vacation time
- Custom calendar exceptions

Color Meanings

Color	Visual	Meaning
White	Light tint	Significantly underutilized — plenty of capacity available
Green	Green tint	Comfortable utilization — some capacity still available
Yellow	Yellow tint	At or near full capacity — limited availability
Red	Red tint	Overallocated — assigned more work than capacity allows

-
- ▶ Time periods with no working hours (weekends, holidays) remain uncolored (default gray).
-

Calculation Modes

The heatmap can operate in two different calculation modes, each suited to different management preferences:

1. Percentage Mode (Recommended Default)

How it works: The system calculates what percentage of a resource's effective capacity remains available.

Formula: $\text{Remaining Capacity} \div \text{Effective Capacity} \times 100 = \text{Percentage Available}$

Why use this mode:

- Consistent across all time scales - A resource showing 50% available capacity on a single day will also show 50% available across a week or month with the same booking pattern
- No recalibration needed - Thresholds work identically whether viewing daily, weekly, monthly, or quarterly periods
- Universal application - Works regardless of calendar type (8-hour days, 6-hour days, etc.)

Example:

- Resource has 40 hours capacity for the week
- Assigned 25 hours of work
- Remaining: 15 hours
- Percentage available: $15 \div 40 \times 100 = 37.5\%$

2. Absolute Mode

How it works: The system calculates the average remaining hours per working day across the time period.

Formula: $\text{Remaining Capacity} \div \text{Number of Working Days} = \text{Hours Available per Day}$

Why use this mode:

- Intuitive for standard workdays — Thresholds expressed in hours per day (e.g., "more than 6 hours free per day")
- Easy to understand — Aligns with how people think about daily capacity
- Still zoom-independent — A resource with 3 hours free per day shows the same value whether viewing a single day or an entire month

Example:

- Resource has 40 hours capacity for a 5-day week
- Assigned 25 hours of work

- Remaining: 15 hours
- Hours per day available: $15 \div 5 = 3$ hours/day

► This mode requires setting thresholds appropriate to your standard working day (e.g., different thresholds for 8-hour vs. 6-hour workdays).

Consistency Across Time Scales

Both calculation modes provide consistent results regardless of the time period being viewed. This example shows a resource with 8-hour workdays, booked at 62.5% capacity:

Time View	Total Capacity	Total Assigned	Remaining Hours	Percentage Mode	Absolute Mode
Single Day	8h	5h	3h	37.5% available	3 h/day free
Week (5 days)	40h	25h	15h	37.5% available	3 h/day free
Moth (21 days)	168h	105h	63h	37.5% available	3 h/day free
Quarter (65 days)	520h	325h	195h	37.5% available	3 h/day free

► **Key Insight:** Both modes show the same value at every zoom level, ensuring color-coding remains consistent whether you're viewing daily, weekly, or monthly timescales.

Default Color Thresholds

If you don't configure custom thresholds, the system uses sensible defaults based on your chosen calculation mode.

1. Default Thresholds — Percentage Mode

These defaults provide a balanced view that highlights resources nearing or exceeding capacity while keeping most well-utilized resources in the green zone.

Remaining Capacity	Color Applied	Interpretation
More than 10% available	White	Significantly underutilized
2% to 10% available	Green	Good utilization with buffer
-2% to 2% available	Yellow	At or very near full capacity
Less than -2% available	Red	Overallocated

What this means in practice:

- Resources turn yellow only when booked above 98% of capacity
- Resources turn red when overallocated by more than 2%
- Most well-utilized resources (60-95% booked) show green
- Lightly utilized resources show white

2. Default Thresholds — Absolute Mode

These defaults are calibrated for standard 8-hour workdays.

Hours per Day Available	Color Applied	Interpretation
More than 6 h/day free	White	Less than 25% utilized
1 to 6 h/day free	Green	Good utilization with flexibility
-1 to 1 h/day free	Yellow	At or near full capacity
Less than -1 h/day free	Red	Overallocated by more than 1 hour/day

What this means in practice:

- Resources with more than 1 hour of free time per day show green
- Resources within 1 hour of full capacity (either over or under) show yellow
- Resources overallocated by more than 1 hour per day show red

► If you use a different standard workday (e.g., 6 hours), you'll want to adjust these thresholds proportionally (see configuration examples below).

Configuration Reference

The heatmap feature is configured through the scheduler's configuration settings using the heatmapRule property.

Configuration Structure

Basic structure:

```
{
  "heatmapRule": {
    "calMode": "percentage",
    "rules": {
      "cell-white": { "op": ">", "num": 10 },
      "cell-green": { "op": ">", "num": 2 },
      "cell-yellow": { "op": "<=", "num": 2, "op2": ">=", "num2": -2 },
      "cell-red": { "op": "<", "num": -2 }
    }
  }
}
```

Configuration Options

calMode (Calculation Mode)

- "percentage" — Calculate based on percentage of capacity remaining (recommended)
- "absolute" — Calculate based on hours per day remaining

- Default: "percentage" if not specified

rules (Color Thresholds)

- Optional — If omitted, system uses built-in defaults for the selected calMode
- Define custom thresholds for when each color should appear

Defining Custom Rules

Each color rule consists of:

Required fields:

- "op" - Comparison operator: > (greater than), >= (greater or equal), < (less than), <= (less or equal), = (equal)
- "num" - Threshold value to compare against

Optional fields (for range conditions):

- "op2" — Second comparison operator
- "num2" — Second threshold value

Available colors:

- cell-white — Light tint for underutilized resources
- cell-green — Green tint for well-utilized resources
- cell-yellow — Yellow tint for resources at/near capacity
- cell-red — Red tint for overallocated resources

How Rules Are Evaluated

The system evaluates rules in order from highest to lowest threshold value and applies the first matching rule. This means:

- Rules should be mutually exclusive (non-overlapping ranges)
- Order rules from most permissive to least permissive
- The first rule that matches determines the color

Configuration Examples

1. Use Default Settings

When to use: You want standard, balanced color-coding without customization.

Configuration: Leave the heatmapRule setting empty or omit it entirely.

```
{}
```

Result: The system uses Percentage Mode with standard thresholds:

- White: More than 10% capacity available
- Green: 2% to 10% capacity available
- Yellow: -2% to 2% capacity (at or near full)
- Red: Less than -2% capacity (overallocated)

2. Strict Utilization Monitoring

When to use: You want to encourage high utilization and flag resources that aren't being used effectively.

Goal: Show green only when resources are well-utilized (50-90% booked). Flag underutilization and near-capacity situations more aggressively.

```
{
  "heatmapRule": {
    "calMode": "percentage",
    "rules": {
      "cell-white": { "op": ">", "num": 50 },
      "cell-green": { "op": ">", "num": 10 },
      "cell-yellow": { "op": "<=", "num": 10, "op2": ">=", "num2": -25 },
      "cell-red": { "op": "<", "num": -25 }
    }
  }
}
```

Color Thresholds:

Remaining Capacity	Color	Meaning
More than 50% available	White	Significantly underutilized
10% to 50% available	Green	Good utilization range

Remaining Capacity	Color	Meaning
-25% to 10% available	Yellow	Approaching or at capacity
Less than -25% available	Red	Severely overallocated

Use Case: Organizations wanting to maximize resource utilization and quickly identify idle capacity.

3. Early Warning System

When to use: You want advance notice before resources reach full capacity, with zero tolerance for overallocation.

Goal: Provide early warning when resources are 80% booked, and immediately flag any overallocation.

```
{
  "heatmapRule": {
    "calMode": "percentage",
    "rules": {
      "cell-white": { "op": ">", "num": 50 },
      "cell-green": { "op": ">", "num": 20 },
      "cell-yellow": { "op": "<=", "num": 20, "op2": ">=", "num2": 0 },
      "cell-red": { "op": "<", "num": 0 }
    }
  }
}
```

Color Thresholds:

Remaining Capacity	Color	Meaning
More than 50% available	White	Plenty of capacity
20% to 50% available	Green	Comfortable booking level
0% to 20% available	Yellow	Early warning - approaching or at capacity
Less than 0% available	Red	Any overallocated

Use Case: Conservative resource management where you want to prevent overallocation and maintain buffer capacity.

4. Hours-Per-Day Thresholds (8-Hour Workday)

When to use: You prefer thinking in terms of hours per day rather than percentages, and your organization uses standard 8-hour workdays.

Goal: Use intuitive hour-based thresholds that align with how people think about daily capacity.

```
{
  "heatmapRule": {
    "calMode": "absolute",
    "rules": {
      "cell-white": { "op": ">", "num": 6 },
      "cell-green": { "op": ">", "num": 1 },
      "cell-yellow": { "op": "<=", "num": 1, "op2": ">=", "num2": -1 },
      "cell-red": { "op": "<", "num": -1 }
    }
  }
}
```

Color Thresholds:

Hours available per Day	Color	Meaning
More than 6 h/day free	White	Less than 25% utilized
1 to 6 h/day free	Green	Good utilization with flexibility
-1 to 1 h/day free	Yellow	Within 1 hour of full capacity
Less than -1 h/day free	Red	Overallocated by more than 1 hour/day

Practical Examples (8-hour workday, Monday-Friday):

Scenario	Daily Capacity	Daily Work	Hours Free per Day	Color
Idle resource	8h	0h	8 h/day	White
Half utilized	8h	4h	4 h/day	Green
Nearly full	8h	7h	1 h/day	Yellow
Fully booked	8h	8h	0 h/day	Yellow
1h overbooked	8h	9h	-1 h/day	Yellow
2h overbooked	8h	10h	-2 h/day	Red

► These thresholds work consistently whether viewing a single day, a week, or a month.

5. Hours-Per-Day Thresholds (6-Hour Workday)

When to use: Your organization uses 6-hour workdays and you want hour-based thresholds.

Goal: Adjust the hour-based thresholds proportionally for a shorter workday.

```
{
  "heatmapRule": {
    "calMode": "absolute",
    "rules": {
      "cell-white": { "op": ">", "num": 4.5 },
      "cell-green": { "op": ">", "num": 0.75 },
      "cell-yellow": { "op": "<=", "num": 0.75, "op2": ">=", "num2": -0.75 },
      "cell-red": { "op": "<", "num": -0.75 }
    }
  }
}
```

Color Thresholds:

Hours Available per Day	Color	Meaning
More than 4.5 h/day free	White	Less than 25% utilized
0.75 to 4.5 h/day free	Green	Good utilization
-0.75 to 0.75 h/day free	Yellow	At or near capacity
Less than -0.75 h/day free	Red	Overallocated

► These thresholds are proportionally equivalent to the 8-hour example, maintaining the same utilization percentages.

6. Simplified Three-Color System

When to use: You want to focus attention only on well-utilized, at-capacity, and overallocated resources.

Goal: Leave lightly-utilized resources uncolored to reduce visual clutter.

```
{
  "heatmapRule": {
    "calMode": "percentage",
    "rules": {
      "cell-green": { "op": ">", "num": 10 },
      "cell-yellow": { "op": "<=", "num": 10, "op2": ">=", "num2": -10 },
      "cell-red": { "op": "<", "num": -10 }
    }
  }
}
```

Color Thresholds:

Remaining Capacity	Color	Meaning
More than 10% available	No Color	Lightly utilized (neutral)
-10% to 10% available	Yellow	At or near capacity
10% to -10% available	Green	Well utilized
Less than -10% available	Red	Overallocated

Use Case: Reduce visual noise by only highlighting resources that need attention.

7. Alert on Overallocation Only

When to use: You only care about identifying overallocated resources and want minimal visual distraction.

Goal: Show color only when there's a problem (overallocation).

```
{
  "heatmapRule": {
    "calMode": "percentage",
    "rules": {
      "cell-red": { "op": "<", "num": 0 }
    }
  }
}
```

Color Thresholds:

Remaining Capacity	Color	Meaning
0% or more available	No Color	Within capacity (neutral)
Less than 0% available	Red	Overallocated - needs attention

Use Case: Exception-based management where you only want to see problems, not normal utilization.

8. Binary Status Indicator

When to use: You want a simple pass/fail indicator with no intermediate states.

Goal: Show green for any resource within capacity, red for any overallocation.

```
{
  "heatmapRule": {
    "calMode": "percentage",
    "rules": {
      "cell-green": { "op": ">=", "num": 0 },
      "cell-red": { "op": "<", "num": 0 }
    }
  }
}
```

Color Thresholds:

Remaining Capacity	Color	Meaning
0% or more available	Green	Within capacity
Less than 0% available	Red	Overallocated

Use Case: Simple, binary decision-making where you only need to know "is this resource overallocated or not?"

Summary

The Resource Utilization Availability Heatmap provides flexible, visual capacity management:

Key Benefits:

- Quick identification of resource capacity issues
- Consistent visualization across all time scales (day, week, month, quarter)
- Flexible configuration to match your organization's management style
- Automatic consideration of work in other projects

Getting Started:

1. Start with the default settings (Percentage Mode with standard thresholds)
2. Review the color-coding in your Resource Utilization view
3. Adjust thresholds based on your organization's needs using the configuration examples above
4. Choose between Percentage Mode (universal) or Absolute Mode (hour-based) depending on your preference

1.3.5 Check In and Check Out Projects for Exclusive Editing

The new **Exclusive Mode** allows project managers to lock a project for exclusive editing. This helps prevent conflicting changes when multiple users are working on the same project and ensures that project data remains consistent.

When a project is checked out, only the user who checked it out can make changes. Other users can still open and view the project, but all editing functions are disabled. When the project is checked in again, it becomes available for editing by other authorized users.

Key capabilities:

- Check out a project for exclusive editing directly from the Scheduler
- Check in a project to make it available to other users
- View who currently has a project checked out and since when
- Open checked-out projects in read-only mode if another user is editing them
- Prevent simultaneous edits that could lead to conflicting changes
- Retain the checked-out status even if the user closes their browser

Improved transparency

Project status is displayed throughout the application, including in the Project Center, making it easy to see whether a project is currently available for editing or checked out by another user.

This enhancement helps teams collaborate more effectively by preventing accidental overwrites and providing clear visibility into project ownership during editing.

1.3.6 Import Actuals with Flexible Distribution Options

Project managers can now import approved timesheet hours directly into their project plans. The new **Import Actuals** feature transfers approved hours from timesheets into task assignments and automatically updates the schedule.

To support different planning approaches, a **Distribution Mode** can be defined at project level.

Available options include:

- **Override Day-by-Day:** Actual values replace planned values for the corresponding days while all other days remain unchanged.
- **Keep Duration:** Actual work is incorporated while maintaining the planned task duration.
- **Keep Effort:** The overall planned effort is preserved, and task duration is adjusted as needed.

For greater flexibility, the distribution mode can also be overridden for individual tasks. Tasks without a specific setting automatically inherit the project-level configuration.

Project managers can additionally decide which tasks participate in the import process. The new **Import Actuals** option on tasks allows selected tasks to be excluded from future imports without affecting the rest of the project.

Key Benefits

- Import approved timesheet hours directly into project schedules
- Choose how actual work impacts effort and duration
- Define distribution behavior at project or task level
- Exclude specific tasks from actuals imports when required
- Automatic update of timephased task assignments
- Improved control over schedule and resource planning

This enhancement provides a more flexible and transparent way to incorporate reported work into project plans while preserving the planning strategy that best fits each project.

1.3.7 Edit Timephased Plans and Comments in Resource Utilization

The Resource Utilization view now offers greater flexibility for managing project schedules and task information.

A new Timephased scheduling mode enables project managers to plan and adjust work directly at the daily level. Timephased values can be edited for individual working days, providing more precise control over how effort is distributed across a task. When tasks are rescheduled or moved, the entered values are automatically shifted while respecting non-working days.

To ensure planning consistency, tasks in Timephased mode use dedicated timephased values as the primary source for effort planning. Standard effort editing is therefore restricted for these tasks across related scheduling views and dialogs.

In addition, the *Comments* column in the Resource Utilization view is now editable. Users can update comments directly within the grid, and changes are automatically saved to the corresponding task.

Key Benefits

- Edit timephased effort values directly in the Resource Utilization view
- Plan work with greater accuracy at the daily level
- Automatically retain timephased values when tasks are rescheduled
- Prevent edits on non-working task days
- Edit task comments directly in the grid
- Reduce navigation between different views and dialogs

This enhancement improves both scheduling flexibility and day-to-day project maintenance by bringing planning and documentation activities closer together in a single view.

1.3.8 Automatic Post-Upgrade Configuration and Validation

Administrators no longer need to manually run post-upgrade flows after installing or upgrading the solution. Required setup and upgrade tasks are now performed automatically by a dedicated plugin.

The new plugin runs after installation or upgrade and checks whether required system components and configuration settings are available. Missing default configurations are created automatically, and common data inconsistencies are corrected where necessary.

Key Improvements:

- No manual post-upgrade flow execution required
- Automatic validation of required system configuration

- Automatic creation of missing default calendars and project types
- Automatic correction of common project and resource configuration issues
- Improved reliability during installation and upgrade processes

Enhanced Logging

A new logging mechanism records all actions performed during setup and upgrade processing. This provides administrators with greater transparency and makes it easier to review warnings, errors, and corrective actions.

Benefits

- Simplified installation and upgrade experience
- Reduced administrative effort
- More consistent system configuration across environments
- Better visibility into upgrade and maintenance activities

This enhancement streamlines deployment and upgrade procedures while helping ensure that PPP environments are configured correctly and remain ready for use after installation or version updates.