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Release Value Proposition

Oracle PeopleSoft PeopleTools 8.54

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Release Value Proposition for PeopleSoft PeopleTools 8.54.

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Purpose of This Document

This Release Value Proposition provides an overview of some of the new features and enhancements planned for Oracle PeopleSoft PeopleTools 8.54. It is a “road map” view of the features that may be of particular interest to customers as they consider an upgrade to this release. This document is intended to help you assess the business benefits of upgrading to PeopleTools 8.54 and plan your IT projects and investments.

This document is only a preliminary view of some of the features planned for this release, and it is not subject to your PeopleSoft license agreement or any other agreement with Oracle. The PeopleSoft PeopleTools 8.54 Release Notes, which are released when PeopleTools 8.54 is made generally available, is the document that defines and articulates the final list of features and enhancements to the PeopleTools product.

This document describes intended developments and functionalities and is not meant to be binding on Oracle to any particular course of business, product strategy, or development. Please note that this document and, more importantly, the features to be finally delivered with PeopleTools, are subject to change at any time without notice.

Release Information Publications

This section lists the types of release information publications that are available.

Release Value Proposition

The Release Value Proposition provides functional details, identifies major enhancements, and articulates their expected business benefit. This document is designed to help you determine whether new product features might warrant upgrading from an old release or embarking on a new implementation. With this information, managers can initiate preliminary budget planning and begin putting together a project team to evaluate specific products further.

Prerelease Notes

Prerelease Notes provide more functional and technical details than the Release Value Proposition. This document describes how the key enhancements function within the context of the greater business process. This added level of detail should enable project teams to answer the following questions:

- What out-of-the-box functionality will change?
- What customizations may be affected?
- How will an upgrade or new implementation affect other systems?
- How will these changes affect the organization?

After the project team has reviewed and analyzed the Prerelease Notes, business decision makers should be in the position to determine whether to allocate budget and initiate implementation plans.

Release Notes

Release Notes, which are published at general availability (GA), validate the final scope of the release. The Release Notes discuss the features and enhancements that are available with the GA release of each product and describe the finalized functional and technical details that will enable project teams to confirm budgets and complete implementation plans.

Cumulative Feature Overview Tool

The Cumulative Feature Overview Tool helps you plan your upgrades by providing concise descriptions of new and enhanced solutions and functionality that have become available between your starting and target releases. To use the tool, you identify the products you own, your existing release, and your target implementation release. With a single click, the tool quickly produces a customized set of high-level, concise descriptions of features that have been developed between your starting and target releases. The output of the tool is a Microsoft Excel spreadsheet, so you can easily manipulate and sort the results or you can copy the content into other implementation planning documents.

Executive Summary

The PeopleSoft PeopleTools 8.54 release continues Oracle's commitment to protect and extend the value of your PeopleSoft implementation; provide additional technology options and enhancements that reduce ongoing operating costs; and provide the applications users a dramatically improved experience.

User expectations and requirements have shifted over the past few years. Most often, our customers' employees have expressed a desire to use applications at work more like the ones they frequently use elsewhere. For example, why shouldn't performing a task, such as updating employee records, submitting an expense report, approving workflow, work more like the tasks they do online every day.

Customers have told us that their employees are more familiar with online tasks than ever, and that they often connect to company resources while traveling or from home; in many cases, they want to access these resources from their personal devices, such as tablets, smartphones, and home computers. The desire is for enterprise systems to be as intuitive and available as other online resources, such as commercial websites. In fact, many of our customers have begun to merge their internal systems with their commercial presence so that external partners, affiliates, and students can securely access required resources directly from the company's website.

PeopleTools 8.54 introduces a number of exciting new features that will assist our applications development teams in building powerful, secure, and robust applications for everyone—from self-service users to expert power users. PeopleSoft 9.2 enhancements that use this latest release of PeopleTools will be richer and more intuitive to users than ever before. In addition, this release incorporates a number of extremely compelling features for delivering, managing, and maintaining PeopleSoft applications at a much more manageable total cost of ownership (TCO).

The most visible features of PeopleTools 8.54 relate to the graphical UI. With this release we introduce the PeopleSoft Fluid User Interface. Our intention is to present PeopleSoft application content in a highly usable fashion and to leverage the latest advancements in HTML, CSS, and JavaScript. The result is a user experience that is simple and intuitive, yet highly productive.

The role of reporting has shifted tremendously in recent years. In many cases, it is no longer sufficient to prepare a static extract of data from the system and then print it to paper or publish it online. Today's technology allows our customers to engage their users with visual charts and graphical analytics that represent what is happening or has already happened. Users can visually discover what they are looking for and then take actions using Related Actions right from the reports themselves.

As with other recent releases, the scope for PeopleTools 8.54 builds additional functionality into the product as a result of direct customer input, industry analysis, and internal feature design. New features, bug fixes, and new certifications found in PeopleTools 8.54 combine to offer customers improved application user experience, page interaction, and cost effectiveness.

PeopleTools 8.54 Enhancements

This section discusses several of the new enhancements that Oracle intends to include in the PeopleTools 8.54 release. These enhancements fall into the following areas:

- User Experience
- Lifecycle Management
- Server Administration and Infrastructure
- Security Administration
- Integration Technology
- Reporting and Analysis Tools
- Development Tools

User Experience

PeopleSoft Fluid User Interface – A Completely New User Experience

This release represents a landmark for PeopleTools and the PeopleSoft user experience. With this release PeopleSoft introduces the PeopleSoft Fluid User Interface. Designed as a significant improvement over the PeopleSoft “classic” user interface, the PeopleSoft Fluid User Interface moves away from pixel-perfect page layout and provides greater flexibility with the enhanced use of cascading style sheets (CSS3), HTML5, and JavaScript.

PeopleSoft application fluid pages scale gracefully from large screen devices, such as laptops and desktops, to the reduced viewing space of tablets and smartphones. Many commercial websites use a similar design model whereby the presentation and layout of information is adjusted dynamically to conform to the dimensions of the user’s device. The Fluid User Interface design approach gives developers just this type of control over the user experience. When a larger screen size (a screen with more “real estate”) is detected, the application content will adjust and conform accordingly to fill the space effectively. Similarly, if a smaller screen size is detected, non-essential information can be removed and the presentation of content will adjust to flow in a usable way.

Like PeopleSoft “classic” pages, fluid page definitions are maintained within PeopleSoft Application Designer, and the application developer will have the ability to define and apply conditional formatting appropriate to smartphone, tablet, or large-screen devices. At runtime, PeopleTools will apply the corresponding formatting according to the device in use. An end user can interact with fluid pages using a conventional mouse and keyboard or using a touch interface, which is common on tablets and smartphones. These new pages are device-independent and will operate on any certified device browser.

The PeopleSoft Fluid User Interface introduces a number of important new features to the application user experience:

- Fluid Homepages
- Tiles
- Notification Framework
- PeopleSoft Navigation Bar

Fluid Homepages are the fluid version of an application home page. Similar to the current portal technology, the fluid homepage is where a user arrives after logging into the system. The fluid homepage brings together information that will assist a user in understanding what's happening and what needs their attention, while providing an easy way for the user to navigate to key parts of the PeopleSoft system. A system can contain multiple fluid homepages for different uses. Customers can easily create new homepages and publish them to users, groups of users, or specific roles. End users can create their own personal homepages, where they might associate information of relevance or importance to themselves.

Fluid homepages use a new navigational structure: the tile. Tiles, also called grouplets, provide a discrete view to a segment of the PeopleSoft application. It is a structure on the homepage that will help the user navigate to a fluid page (or even a classic page), but the tile also can provide valuable information in its own right. Designed to be more than a button on a homepage, the tile leverages the ability to display notifications through the new PeopleSoft Notification Framework as well as dynamic visual content from PeopleSoft Pivot Grids or other information sources. A tile on a fluid homepage can be compared to a pagelet on a classic homepage.

The Notification Framework is a mechanism employed by PeopleTools that updates a widget in the home page header. As data is updated within applications, the notification widget reflects a sum of all notifications from all applications represented in the home page. It shows users the number of items that need their attention and enables them to view and act on those items using the Notification Window. For example, if an application provides the number of outstanding invoices yet to be approved by the user, the Notification Framework might be used to update the count dynamically as new invoices are generated.

The new PeopleSoft Navigation Bar (also referred to as NavBar) offers faster and more intuitive navigation across the PeopleSoft application. The Navigation Bar is a new fluid structure that is always available as a dynamic window that slides out from the side of the page. On fluid-enabled systems, the PeopleSoft Navigation Bar will be available even on PeopleSoft classic pages, creating a seamless experience for users as they navigate the system.

The PeopleSoft Navigation Bar enables users to access information about other areas of the application directly and, upon selection, to navigate to those pages. It includes the entire PeopleSoft menu, user favorites, and recently used links, but also navigation tiles that will bring users to the parts of the application that are most important to them. Users can personalize the PeopleSoft Navigation Bar easily by arranging the icons or even by pinning new application pages to the bar as they work.

As previously mentioned, fluid pages are designed with a view to the mobile user. Mobile devices such as tablets and smartphones include the ability for the user to change the page orientation (by turning the device) from Portrait (tall) to Landscape (wide). A responsive page will automatically adjust to fill the space appropriately. In Portrait mode, where width is limited, a grid that would normally display multiple columns might adjust to show the information row-by-row instead. PeopleTools allows developers to define the behavior required of an application page to accommodate these types of dynamic changes.

Page designers may also elect to alter the type or nature of information that appears to the user, depending on the form factor of the device. That is, larger displays might show more associated information, related content, or analytic charts; whereas a smartphone page might be designed to show only the information necessary to complete the steps of a transaction. PeopleTools enables an application developer to determine exactly what information will appear to a user in these scenarios.

In addition, the PeopleSoft Fluid User Interface supports device-side capabilities for mobile devices such as the embedded camera for image uploads. With PeopleTools, application developers can construct modern mobile applications and deploy them in conjunction with the deep functionality of PeopleSoft applications to create a powerful, dynamic experience for users.

If you intend to provide fluid page access to end users, system administrators will need to enable Fluid Mode for the system, which entails reviewing only a couple settings in the web profile and the PeopleTools Options page. Keep in mind that fluid pages may require a higher minimum level of browser version than required by the classic pages. For example, a classic page may require Internet Explorer 9, while the fluid version of that page may require Internet Explorer 11. The system detects the browser version and only displays fluid pages on device browsers meeting the minimum requirements for fluid page display.

Branding Framework

PeopleTools now provides a greatly expanded branding framework that is powerful and flexible, bringing the capability of managing a site's look and feel to all applications without requiring the PeopleSoft Interaction Hub. With PeopleTools 8.54, many common branding activities, including managing content associated with the overall site style, are now performed online rather than by using Application Designer. In addition, PeopleTools branding supports component-based branding, providing the ability to apply a consistent appearance when rendering content from multiple providers on the same page.

With PeopleTools branding, common actions, such as layout manipulation, style sheet and image use, and JavaScript injection, can be managed within PIA. For example, these tasks can be easily performed within the delivered online pages:

- Manage configurable header and footer layouts.
- Create and employ custom themes and skins, either site-wide or within individual components.
- Inject system-wide or component-level JavaScript and CSS snippets.
- Style iScript content as managed objects using Meta-tags.

The PeopleSoft Interaction Hub has long provided a branding framework, and it still offers some optional branding capabilities that are particularly valuable across a site that includes multiple PeopleSoft applications. The PeopleTools Branding Framework brings many of these capabilities to individual applications. Online preview of style changes is now incorporated into both PeopleTools and the PeopleSoft Interaction Hub.

From a lifecycle perspective, administrators can migrate branding objects using Application Data Sets. Style sheets can be easily copied from the Interaction Hub for use in other applications across the cluster.

Activity Guide Enhancements

Activity Guides are a useful PeopleTools feature that helps guide users through complex or infrequently performed processes. Activity guides provide users insight into the step-by-step flow of a guided process, potentially reducing user errors and process execution time. Activity Guides have added support for adding batch process as a step in an activity guide by leveraging the self-service scheduling feature. This feature enables activity guides to encompass both transactional and batch processes in a single guided process.

PeopleSoft applications deliver a number of Activity Guides out of the box, but customers can create their own using the PeopleTools framework. With PeopleTools 8.54, Activity Guides will be even easier to create and manage because PeopleTools includes an Activity Guide Management WorkCenter. This WorkCenter provides a complete step-by-step process for creating, configuring, maintaining, and deploying Activity Guides within a PeopleSoft application.

Activity Guides will also be able to be cloned in whole so that guided processes and flows that are similar yet slightly different can be easily maintained and deployed. For example, if running a particular process varies by role, a base activity guide might be created and cloned, allowing a customer to configure the variations for each role.

WCAG 2.0 Support

PeopleTools 8.54 makes it possible for PeopleSoft applications to conform to WCAG 2.0 AA regulatory guidelines. Support for WCAG 2.0 means PeopleSoft applications built on PeopleTools 8.54 will conform to the latest accessibility regulations. (Note: Previous versions of applications running on PeopleTools 8.54 will not automatically conform to all aspects of WCAG 2.0. Modifications to earlier applications may be necessary to conform to specific WCAG 2.0 guidelines.) PeopleTools 8.54 also makes it possible for customers to maintain this level of conformance when they create or modify pages.

Web Content Accessibility Guidelines (WCAG) are part of a series of guidelines published by the W3C's Web Accessibility Initiative. Their goal is to make content accessible, primarily for disabled users but also for all user agents, including highly limited devices, such as mobile phones. The current version (2.0) of the guidelines is also an ISO standard: ISO/IEC 40500:2012. WCAG 2.0 is an international standard used in most countries that enforce accessibility regulations. The new standard provides additional requirements to address new web technologies and has become the standard by which many organizations monitor software compliance. WCAG 2.0 extends standards described in WCAG 1.0 as well as the U.S.-specific regulations described in section 508 of Federal access standards.

Unified Navigation for PeopleSoft Fluid User Interface

Unified Navigation now federates PeopleSoft Application Nodes for the fluid user experience framework as well as classic PIA pages, eliminating the need for customers to set up the remote Content References/Components manually and to synchronize security between applications in fluid pages.

With enhanced Unified Navigation, fluid features such as the Navigation Bar (Navbar) can expose the Remote PeopleSoft Registry (both new and classic PIA targets) without manually copying the remote registry and synchronizing security between nodes (no manual copy is needed for Permission List/Roles).

Unified Navigation supports the following fluid features:

- Navigation Bar (NavBar) unifies the Menu, which will be able to show unified local and remote Folders/CREFs in both new and classic PIA. The NavBar merges multiple remote folders and CREFs, displaying widgets from across federated PeopleSoft applications. For example, a user could view NavBar menu items from Financials or ELM while working on a page from HCM. The NavBar can also display Favorites and Recently visited pages from across federated applications sources.
- When a user launches a remote page, the header and other links will be based on the Portal system context, which ensures that common header styles are maintained across all federated PeopleSoft applications.
- Users can personalize remote content home pages.
- Users can search across federated PeopleSoft content and bring in remote tiles to a home page.
- Runtime security will be in effect for remote tiles, eliminating the need for manual security synchronization.
- Remote Related Action/Services across different PeopleSoft applications are in effect. If a user opens a page from a remote content provider, the related actions will remain in effect, providing consistent navigation behavior.

Unified Navigation has also been enhanced to support configuration of multiple instances of the same application. This addresses the need of some customers who deploy application modules or products in separate physical environments. For example, a customer might have different environments based on product areas or geographical regions.

Unified Navigation breaks down many of the navigation barriers between PeopleSoft applications and enables users to access pages and content as needed. It provides PeopleSoft customers with a user experience that is aligned with their business processes, free of product partitions.

Related Content/Related Actions Enhancements

Related Content enables users to access related information in the context of a transaction, and Related Actions enable people to take action on information in context, without navigation. While these features have been part of PeopleTools for several releases, PeopleTools 8.54 offers some important enhancements.

Related Actions now provide a mechanism to associate a Field Change event of a particular field to an existing Related Action Widget. This simplifies configuration and means developers no longer have to define an AppClass-based Related Action service for each action and copy their Field Change PeopleCode to the AppClass. This reduces duplication of code and simplifies maintenance.

When a Related Action Widget includes only a single action for a user, that single link will be displayed directly on the page rather than displaying a drop-down menu with just one item. This streamlines user actions and eliminates mouse clicks.

The Related Content Framework enables creating a service based on an application class. Some related content service types, such as Component, CREF, and iScript-based services, are only accessible to users who are authorized. This check is done by the Authorization as a Service function. Now, Authorization as a Service can perform authorization checks for an application class. Data security checks can be performed for iScript, Pagelet, and PS-Query content types, making the implementation of security easier when both basic PeopleTools security and data security are required.

PeopleSoft Search

PeopleTools introduced the PeopleSoft Search Framework in PeopleTools 8.52, providing a powerful new way for end users to find business data, act on it, and navigate the PeopleSoft system. PeopleTools 8.54 extends the Search Framework for use with the PeopleSoft Fluid User Interface, providing a rich search experience that is optimized for small form factor devices, such as tablets and smartphones, as well as larger monitors.

In addition, individual applications can customize contextual search pages to provide a richer experience where it may be necessary or valuable to the overall user experience.

The Search Framework now extends Global Search behavior to Component Search. With PeopleTools 8.54, Component Search pages will leverage Pivot Grid functionality, presenting search results in both visual charts and columnar lists. Pivot Grids' ability to drill from charts as well as incorporate rich facet and filter functions greatly improves the experience of analyzing and identifying target information. Related actions are also available across all types of search results. These enhancements are incorporated in fluid pages. Search results and interactivity in component search are optimized when viewed from a smartphone to improve productivity and ease of use. Classic PIA pages continue to use the component search features of previous releases.

Lifecycle Management

Application Lifecycle Management (LCM) is an area that has seen significant PeopleSoft investment in recent releases. PeopleSoft delivers a broad suite of tools that helps customers manage change within their complex applications infrastructure and maintain visibility into the effect of changes so that they can effectively manage costs and risk. PeopleTools 8.54 contains several features that will help customers manage their Total Cost of Ownership, including:

- PeopleSoft Update Manager
- Configuration Data Management
- Automated Testing

PeopleSoft Update Manager

Of the new features added to Update Manager, none is more important than the ability for the source and target PeopleSoft systems to be on different PeopleTools versions. With that capability, customers that are on an 8.53 release of PeopleTools will take full advantage of new 8.54 Update Manager features without going through a tools upgrade. The new features are available as part of the PeopleSoft Virtual Instance that is downloaded as part of the maintenance process.

Additional 8.54 features available in the PeopleSoft Update Manager are documented in the PeopleSoft Update Manager Roadmap document available on the PeopleSoft Update Manager home page.

Configuration Data Management

PeopleSoft is in the process of shifting from requiring costly customizations to offering a feature rich configuration methodology for change. The centerpiece for this change is Life Cycle Management technology that helps customers manage configurations within the application. Data Migration Workbench and data sets provide this new feature and enable copy, compare, and validation and merge capabilities. With this technology, PeopleSoft customers will manage all of their data, application configuration, tools configuration, and tools-managed objects the same way.

Data Migration Workbench is a lifecycle management tool first delivered with PeopleTools 8.53 that enabled customers to move and compare configuration data easily and securely between PeopleSoft application instances such as DEV, TEST, and PROD. PeopleTools 8.54 introduces enhancements to improve data integrity, allow for conditional merging of data, and add to the overall robustness of the utility.

Application Data Sets are the primary data structures used in Data Migration Workbench. In release 8.54, several new features were added. These features will:

- Define relationships within and between Application Data Sets to better define structure. These references have properties that determine how and when certain processing will be done to better edit the data and when to include related objects into a project. They will also ensure that referential integrity rules are applied.
- Define groups of records and fields within an Application Data Set that, together with group properties, can be used to define records and fields that can be safely merged or that should be hidden from compare.
- Associate application classes that automatically perform specialized shape and value transforms that occur between Tools releases when needed.

Data Migration Workbench is used to migrate PeopleTools features such as Pivot Grids and Activity Guides from one PeopleSoft instance to another. In some cases, code may be required to apply PeopleSoft-delivered changes on top of a customer's customizations. A new feature within Data Migration Workbench allows specific rules to be applied when migrating data to enable changes to be applied while preserving customizations.

Data Migration Workbench continues to be a vital part of a strong set of Lifecycle Management Tools delivered by PeopleSoft to help lower the costs of maintaining PeopleSoft applications.

Automated Testing

Automated testing is an important part of the PeopleSoft application lifecycle. The cost of manually testing applications when maintenance is applied or during upgrades can be high. The more automation is used, the lower the cost of testing becomes. PeopleSoft delivers the PeopleSoft Test Framework (PTF) to let customers automate testing with a tool that integrates with and has firsthand knowledge of PeopleSoft metadata.

Enhancements for 8.54 focus primarily on providing smart automation. Smart automation is all about running the tests that need to run in the way that they should be run based on what has happened in your application. New PTF features in 8.54, such as mass updating of tests and filtered views, create a tighter integration among PeopleSoft Test Framework, PeopleSoft metadata, and lifecycle management reports. Using smart automation, decisions can be made about which tests require modification and which tests need to be run.

Changes to PeopleSoft Test Framework also include a number of enhancements that improve creating, administering, and running tests. Several changes have been made to make recording tests and finding previously recorded tests even easier. Moving tests into a PeopleTools project can now be done without the use of Application Designer. In addition, you can now start running a test at a designated step within a process.

Server Administration and Infrastructure

Managing your PeopleSoft environments and the associated system components can be challenging. Customers tell us that it is critical to keep their environments up to date in order to take advantage of technology advancements and ensure their environments are covered by vendor maintenance should issues arise. Oracle strives to offer broad choices of market leading technologies for the PeopleSoft application infrastructure, enabling customers to decide which components work best for their needs.

This section describes the following server administration and infrastructure enhancements for PeopleTools 8.54:

- Modified Platform Components
- Global Temporary Tables
- Oracle Materialized Views
- Multitenant Database Support
- Partitioning for Oracle Database
- Portable PS_HOME
- MetaSQL Enhancements
- Automated Configuration Manager
- PeopleSoft Plug-in for Enterprise Manager 12c

Modified Platform Components

The following table lists some of the changes to key infrastructure components planned for PeopleTools 8.54. The discontinuation of a specific component is generally due to the end of the vendor's mainstream support for the product. While the data accurately describes our intent as of the release of

this document, specific component plans could change prior to the general availability release of PeopleTools 8.54. Customers should be sure to check My Oracle Support for updates to this information.

| Component | Added | Discontinued |
|-------------------------|--|--|
| Server Operating System | Oracle Linux 6 (64-bit) Windows Server 2012, 2012 R2 zOS 2.1 | Windows Server 2008 (R1) z/OS 1.11 |
| Client Operating System | Windows 8.1 | Windows 7 (32-bit) |
| RDBMS | Oracle 12c DB2 LUW 10.1, 10.5 DB2 z/OS 11 Informix 12.1 MSS 2014 | Oracle 10.2.0.5, 11.2.0.3 DB2 LUW 9.5 MSS 2008 |
| Web Server | WebLogic 12.1.2 WebSphere 8.5.5 | WebLogic 10.3.6 |
| Browser | Chrome - current level at 8.54 GA Firefox - 24 (extended support release) & current level at 8.54 GA Internet Explorer 11 Safari 6, 7 (for Mac) Safari for iPad iOS 6, 7 | IE 8 Firefox 17 Safari 4, 5 for Mac iOS 5 |
| Application Server | Tuxedo 12.1.1.0 (VS2012 for Windows) | Tuxedo 11gR1 |
| JRE | 1.7 – no change | |
| Search | SES – 11.2.2.2 Verity – no change, 6.5.1.1 | SES 11.1.2.2 |
| COBOL | Net Express 5.1 WP9 for Windows Server 2012 IBM Enterprise COBOL for z/OS 5.1 | IBM RDz 7.6, COBOL for Windows 7.6 IBM z/OS COBOL 4.1 |
| Enterprise Manager | EM 12.1.0.1 – no change | |
| Crystal/BOE | Crystal 2013 BOE 4 | |
| Office | Office 2013 64-bit | 32-bit Microsoft Excel |

Note. This Release Value Proposition *does not* contain a comprehensive list of Oracle’s support policy, nor is it intended to replace the information in the certification database on My Oracle Support. The information contained in the table is a snapshot of the current plans for platform support as of general availability for this release. *Always* refer to the certification database on the Certifications tab on My Oracle Support for the current and most comprehensive support information.

Global Temporary Tables

Global Temporary Tables (GTTs) are Oracle database working tables whose data persists for the span of a specific process. Multiple processes are able to use these work tables without any data collision among processes because the data is process specific, and operations on the data in one session will not affect the data in use by any other process. GTTs improve performance by automatically discarding data at the end of a session. GTTs are not logged by design, and they will not incur any logging overhead.

PeopleTools 8.54 will enable the use of Global Temporary Tables for use with Application Engine jobs that are run in batch.

Oracle Materialized Views

Materialized views take the results of complex SELECT statements and save the datasets to disk. The results are then readily available without the need to run the SQL each time. The SELECT statements typically defining materialized views often contain sizable tables, complex joins, and summary functions that may take some time and computing resources to complete. By running the SQL once and saving the results to be used and reused, a significant savings of CPU and memory consumption can be achieved. Materialized views provide significant improvements in performance when used in Pivot Grids that do not use frequently updated data sets. The data is refreshed on a time period defined in the materialized view.

PeopleTools 8.54 will enable potentially significant CPU savings by using materialized views for the Oracle database. Application Designer will have the ability to declare and define materialized views (including the data refresh period) for use within PeopleSoft applications.

Multitenant Database Support

Multitenant Database is a new feature included in Oracle database 12c that provides the ability to move previously autonomous databases (such as PeopleSoft application databases) into a single container database instance. Each database that is plugged into a container still appears to be unique; however, several advantages are gained, including:

- The pluggable databases in a container database share a common catalog and background processes, which reduce the CPU and memory footprints.
- Database patching is performed once at the container database level and used by all pluggable databases, which greatly simplifies maintenance.
- Managing databases is significantly improved because one container database is much easier to manage than all of the independent pluggable databases. Backups and disaster recovery are performed at the container level instead of each pluggable database being managed independently.
- Provisioning, cloning, or both are greatly improved. Databases can be cloned in seconds.

With PeopleTools 8.54, container databases and pluggable databases can be configured within Application Designer, thus eliminating the manual steps previously required to create a Multitenant Database environment.

Partitioning for Oracle Database

In PeopleTools 8.51, PeopleTools began saving the partitioning configuration that customers would implement in a PeopleSoft database. Before this, customers would need to reapply their partitioning

settings each time they performed a PeopleTools upgrade. While that was helpful to some extent, PeopleTools 8.54 really completes the enhancement.

With PeopleTools 8.54, Oracle database customers are able to configure partitioning of PeopleSoft tables as well as indexes, all using Application Designer. These configurations no longer need to be done outside of PeopleSoft.

Portable PS_HOME

PeopleTools has focused on a number of enhancements related to PS_HOME in recent PeopleTools releases to make PS_HOME more secure, with a clearer separation of functionality. It began with providing a more secure installation by splitting out logs, cache and configuration files into PS_CFG_HOME, which allowed PS_HOME to become read-only. From there, we created PS_APP_HOME to split the PeopleTools and PeopleSoft application objects apart, thus removing any ambiguity of which objects are changed during a PeopleTools vs. application upgrade, or during the application of maintenance. PS_CUST_HOME arrived with PeopleTools 8.53 and provided a mechanism to separate any customized code (COBOL, SQR, and so on) from delivered code.

With PeopleTools 8.54, the latest enhancement involving PS_HOME, Portable PS_HOME, will provide an easier way to use a private cloud configuration where multiple application installations use the same PeopleTools install. Hard-coded paths and symbolic links are removed, which will allow the install of PeopleTools to be more easily copied to other servers. UNIX file servers can create a mount point to use the installation with any number of environments. With a single PeopleTools install being used with multiple application installs, procuring an environment becomes faster and cheaper. In addition, when it is time to apply maintenance, it is quickly performed in one place instead of in each separate environment, thus lowering the total cost of ownership.

MetaSQL Enhancements

Two new metaSQL enhancements for the Oracle database are delivered with PeopleTools 8.54 that are designed to offer more flexibility with performance tuning and better overall performance.

%SqlHint can be applied to SQL or PeopleCode to assist with those performance conditions for which the optimizer ran better on a previous database release or simply makes a poor choice.

%SelectDummyTable offers a better way of performing SQL calculations against a dummy table. When a real table such as PS_INSTALLATION is used, a round trip to the database is incurred, wasting both CPU and the time for the round trip. When this is performed many times, the inefficiency adds up. The new metaSQL function uses Oracle's DUAL table to avoid the useless round trips to the database.

Automated Configuration Manager

Automated Configuration Management is a new PeopleTools framework with a set of plug-ins that enable customers to perform PeopleSoft configuration inputting parameters in a text file, without requiring the time consuming, error-prone, manual tasks that were needed until now. At the center, the plug-ins are AE programs developed by PeopleTools developers and will be kept up to date when the sub modules are changed or enhanced. 8.54 delivers more than a dozen plug-ins to configure Integration Broker, Oracle Secure Enterprise Search, Unified Navigation, and PeopleSoft Test Framework. In addition, customers can develop their own plug-ins.

PeopleSoft Plug-in for Enterprise Manager 12c

Application Management Suite for PeopleSoft leverages Oracle Enterprise Manager as its technical foundation to enable the business driven approach of managing PeopleSoft. The PeopleSoft plug-in for Enterprise Manager 12c provides a set of PeopleSoft-specific tools, such as Domain Administration and Process Scheduler Management that are designed to address the unique management challenges of the PeopleSoft applications.

The PeopleSoft plug-in for Enterprise Manager 12c in PeopleTools 8.54 includes the following enhancements:

- Extended Diagnostics.

This feature extends the current logging with hints for normalizing local environments and custom configurations.

- Ease of discovery and configuring the Process Monitor target.

The Process Monitor target is a useful feature of the PeopleSoft plug-in, providing deeper insight to batch processing. This feature will aid in configuring the PROCESSREQUEST web service for greater ease of discovery of the Process Monitor target.

- Extending use of delivered Enterprise Manager UI framework.

The PeopleSoft plug-in takes advantage of delivered core EM frameworks. The EM core team has enhanced the UI framework and in this release. PeopleTools has incorporated those changes into the plug-in pages.

Security Administration

In addition to reviewing industry trends, PeopleTools uses customer input to help decide which additional features to add and which to extend. Most of the security features in PeopleTools 8.53 have resulted from customer discussions. This section describes how the Secure by Default initiative is expanding in PeopleTools 8.54.

Extending Secure by Default Initiative

In line with an overall [Oracle Secure Configuration Initiative](#), PeopleTools 8.54 continues to expand on its Secure by Default installation. Secure by Default is an approach to ensure that the application configuration settings adhere to system hardening recommendations. PeopleSoft has historically delivered a number of default user IDs and passwords that could become well known and would present a compromise if they were not changed or removed in production. PeopleTools 8.54 will:

- Deliver Hardened Oracle VM Appliances.

Virtual Appliances, such as the PeopleSoft Update Manager, are extensively tested and hardened in line with the Secure by Default Initiative.

- Oracle Secure Files for Report Repository

Oracle Secure Files can be exposed as virtual mount points, which provide a directory structure for the PeopleSoft Report Repository. Secure Files can then be protected and managed transparently by in-place DB processes to PeopleSoft Report Manager.

- Revalidate Password.

This feature will support LDAP Authentication.

- Provide Extended Support for Digital Signatures.

This feature allows reports produced by BI Publisher to be digitally signed.

Integration Technology

PeopleTools continues to invest in the technology that lets PeopleSoft applications integrate with other applications. This section describes enhancements in the following technologies:

- PeopleSoft Integration Broker
- MultiChannel Framework

PeopleSoft Integration Broker

In PeopleTools 8.54, investments are being made to ensure it is easier to administer and manage a PeopleSoft integration environment, to improve the integration development experience, and to extend the options developers have when creating new integrations. This section describes enhancements to PeopleSoft Integration Broker, including:

- REST services
- Remote Intradoc Client (RIDC) target connector

REST Services

This section describes enhancements to the PeopleSoft REST services framework in PeopleTools 8.54.

Additional Inbound Security Options for REST Provider Services

Two new options will be available for setting the security requirements for inbound consumer REST services.

Currently, when developing provider REST services, you can require that inbound consumer services are sent using SSL, basic HTTP authentication, and basic HTTP authentication and SSL, or none of these.

Beginning in PeopleTools 8.54, PeopleSoft Token and PeopleSoft Token and SSL are added inbound security options.

Optional Content Types and Status Codes

To add more flexibility in the REST framework, you can assign optional content types and status codes to message instances on REST service operations.

Generated WADL documents will reflect the optional selected values, allowing consumers to request the content type they prefer.

You can define optional content types on request, response, and fault message instances. You can define optional status codes on response message instances.

Remote Intradoc Client (RIDC) Target Connector

PeopleTools is delivering a Remote Intradoc Client (RIDC) target connector to allow users to interact with the Oracle WebCenter Content product.

Oracle WebCenter Content provides leading edge solutions for all types of content management needs. It has been chosen as the repository for large data sets for Fusion document discovery and transfer.

The new connector will:

- Allow files to be uploaded to or downloaded from the Oracle WebCenter Content server.
- Support text and binary file types such as xls, PDF, doc, and ZIP.

MultiChannel Framework

PeopleTools has made accessibility enhancements to the MultiChannel Framework user interface to ensure that frame labels, icon labels, fields, and other page elements are displayed appropriately when users access the pages with assistive technologies, such as screen readers.

Reporting and Analysis Tools

The role of reporting has shifted in the past 10 years. While the need still exists to extract information from an enterprise applications system, assemble it into a prepared format, and publish the information to a certain user or group of users, users have shown us that they benefit greatly from a more real-time approach to presenting information for their use and analysis. As technology has advanced—from the speed of the systems themselves to the software for data manipulation and graphical presentation—users have grown more accustomed to being able to see what is important, what requires their attention, and what actions to take.

PeopleSoft has continued to enhance the tools our customers use to access data with our applications, prepare that information for use by users, and present it in any of a number of means to enhance overall productivity. The reporting and analytic tools included within PeopleTools include:

- PS Query
- Pivot Grids
- BI Publisher
- SQR
- nVision
- Additional Features

While some are relatively recent additions to the PeopleTools arsenal, most of these tools have been in use for years and many customers have shared with us the areas and features they would like to see improved.

PS Query

PeopleTools 8.54 brings a number of important enhancements to the already mature and feature-rich PS Query foundation. Enhancements include:

Default values for prompts: Query prompts can have default values, which are specified as constants or by the use of system variables such as %Date, %DateTime, %Time. Prompts can be set as optional.

Image support: Queries run through Query Manager, Query Viewer, Scheduled Query or directly through PS Query API methods (RunToRowset, RunToFile, and so on) and can now include image fields in their result sets. Available options are to return embedded image data (base 64 encoded), image hyperlink, display blank (legacy mode).

Related Language Record processing using COALESCE: Language translation has been moved from post-processing directly into the Query, which enables PeopleSoft to include the target language in determining sort order for query results. This capability is leveraged by Pivot Grids and PeopleTools Search Framework.

Multiple query security records: PeopleTools has added an Advanced Query Security option to Application Designer. This feature allows up to five Query Security Records to be associated with a single record, including the ability to associate security with non-key fields. While powerful, this feature should be used sparingly because multiple additional joins will affect query performance.

Find Query/Connected Query definitional references: PeopleTools 8.54 adds a Find References link, allowing a user to determine if a Query or Connected Query is used as a data source by another component, such as another Connected Query, BI Publisher report, Pivot Grid, Search Definition, or RSS Feed.

REST service enablement of Query: All Query Access Service (QAS) services are now also available as REST services.

Support for greater than 64 thousand rows when sending Query output to Microsoft Excel.

Composite Query: With PeopleTools 8.54, developers will use the new Composite Query feature (essentially a superset of the previously provided Connected Query) to retrieve multiple levels of related information as a single, flattened query result, allowing for the subsequent aggregation and transformation of the data. In addition, PeopleTools supports a new UI for managing Composite Queries, support for web services via Query Access Service, as well as a complete API for programmatic creation and execution of Composite Queries.

Pivot Grids

Since their release a few years ago, Pivot Grids have become a valuable component of PeopleSoft's rich reporting and analytics toolset. With PeopleTools 8.54, our teams continue to enhance this important technology to become an integral element of the PeopleSoft user experience.

As mentioned, the PeopleSoft Fluid User Interface takes advantage of Pivot Grids both on the new fluid homepage tiles as well as the basis for the new component search framework used for fluid components. These new capabilities ensure that visual insight and analytics are woven directly into the fabric of the PeopleSoft application, rather than merely graphics pasted onto a page.

PeopleTools 8.54 brings a number of extremely important new features to the PeopleSoft Pivot Grid:

- Support for a Scatter Plot.
- Ability to take Related Actions on multiple rows in the Detailed View.
- Support for PeopleSoft Trees.
- Ability to personalize the Pivot Grid view so users can save their own personalization and also reset the view back to the default.
- Ability to define a Pivot Grid directly from the base query in Query Manager with the View as Pivot Grid feature.
- Single switch to Expand All and Collapse All detail rows.
- Support for PeopleSoft Embedded Help.
- Ability to support multiple baseline Pivot Grid views from the wizard.

- Support for currency type formatting.
- Pivot Grid viewer and mobile interaction platform optimized for touch with responsive design for fluid pages.

BI Publisher

Even while more user data access is migrating to real-time online publication of analytic content, the need exists to publish and distribute prepared reports using the BI Publisher tool.

PeopleTools 8.54 extends the capabilities of BI Publisher to include a number of important new features:

- **Postscript & PCL:** Support for Postscript and PCL printing for PDF output. PeopleTools adds two new methods:
 - **PDFtoPS:** Support for direct printing of PDF on non-Postscript level 3 printers.
 - **PDFtoPCL:** Support for embedded Printer Control Language (PCL) to enable printing output with Secure Fonts™, including two new output types have been added to Process Scheduler: Postscript (.ps) and PCL (.pcl).
- **Digital Signatures in PDF:** BI Publisher reports output as PDF can now be digitally signed which verifies the signer's identity and ensures that the document has not been altered after it was created. This feature can be attached to all PDF output and is enabled for both PDF and RTF templates.
- **Updatable PDF:** PeopleTools 8.54 adds the ability for BI Publisher PDF output to be updatable by end-users and for the updated content to be submitted to PeopleSoft automatically. With this feature, a user can update information on a report or form and click an embedded Submit button to send the updated data back to the PeopleSoft database.
- The Updatable PDF feature is perhaps most commonly used with government-delivered PDF templates. It works in both HTTP and HTTPS protocols.

nVision

PeopleTools 8.54 extends our existing support for Microsoft Excel format reports by adding a Cross Platform Framework (PXF) for Excel report generation. The PXF enables customers to deliver Excel format reports for nVision and Query output to Excel without having to maintain a Windows server in the data center.

By taking advantage of the delivered Java APIs, the PXF can be used by all PeopleSoft products, including customer built modules, to read and write Excel files on all platforms (including non-Windows systems).

Additional Features

In addition to the features described previously, PeopleTools 8.54 has added a number of other important enhancements to the breadth of Reporting and Analytics tools, including:

Query Access Service (QAS) has added support for REST services in PeopleTools 8.54.

Self-Service Scheduling: Leveraging the PeopleTools 8.54 Notification Framework, PeopleSoft now enables users to schedule the preparation and execution of reports directly from transactional pages. Content from the page can be obtained at runtime and used for report execution. The Notification Framework is used to inform users of the completion of report execution and to provide the user access to the prepared report directly from any PeopleSoft page.

Search Indexes for Reports: PeopleSoft's Global Search feature now supports the inclusion of report contents in the preparation of global search indexes. This ability allows users to search for keywords in the PeopleSoft database and for the search to return results based on report content in the Report Repository rather than just the PeopleSoft transactional database.

SQR Features: Additional capabilities have been added to the already robust and mature SQR platform. These include:

- Support for 64-bit executables on Windows.
- Support for XML output type.
- Rich Text support for long edit fields.
- Ability to use Administrator's personalizations when running an SQR report.

Charting: PeopleTools' charting features have been enhanced in this latest release with a number of new charting objects, including: Rating Boxes, gauges, ring charts, and smooth line and area charts.

Development Tools

This section describes the following enhancements for PeopleTools 8.54:

- Mobile Application Platform
- 64-bit Development Client
- Auto-completion Support for PeopleCode Editor in Application Designer
- Toolbar Button that Opens the PeopleCode Editor for the Object in Focus
- Support for PNG, SVG in Image Field in Application Designer
- Improved Text Search Functionality
- Improving Object Reference Search Functionality

Mobile Application Platform

With release 8.54, PeopleSoft is delivering, for the first time, the ability to create a responsive user interface using standard technologies such as HTML5, cascading style sheets (CSS3), and JavaScript.

Applications built using the Mobile Application Platform (MAP) will provide a completely different experience than those built using traditional PeopleTools components and pages. Applications built with MAP can include media queries that allow applications to scale from smartphones to mini-tablets to full-size tablets and that adjust the user interface for the device perspective that is being used. The framework allows you to develop applications with touch interfaces that look and operate similarly to native interfaces on mobile devices.

MAP supports a web-only development model for the majority of the application development. The document-based data structures, page layouts, and styles are all defined in the PeopleSoft Pure Internet Architecture. Business logic processing is done through PeopleTools application class PeopleCode built in PeopleSoft Application Designer. Additional user-interface libraries can be easily plugged in and accessed on pages.

While MAP is similar in many ways to the PeopleSoft Fluid User Interface delivered with PeopleTools 8.54, there is a single major difference. That difference is that MAP reads and writes data through RESTful web services that pass through the integration gateway and provide the communication layer between MAP applications and the database.

Using RESTful services as the foundation of the framework offers these significant differences:

- Since all parts of the application are based on REST services, an open integration model that enables an application to navigate from one application to another, including third-party applications, is inherent in the design.
- You can develop applications that access content from different systems, making it a strong development platform when there is a need to collate information from various systems, such as in clustered environments.

It is important to note that while the framework is built on REST services, developing and manipulating REST services is not required; the framework takes care of building the services in the background.

The security model for MAP applications is also very different from the PeopleSoft Fluid framework. MAP applications can consist of one or more layouts. Since you can determine and assign different levels of security for each layout, security can be different when navigating through the application.

Another difference between MAP and the PeopleSoft Fluid User Interface is that developers can create templates that contain default styles, formatting, media queries, and other options that affect the appearance of mobile application pages. When used, templates provide style consistency among mobile application pages and mobile applications. If you are building multiple mobile applications and want them to have the same look and feel, using templates can help you achieve this objective, and templates can be especially helpful if different organizations, departments, and teams are involved in developing mobile applications.

The Mobile Application Platform is new technology that gives customers more options when designing and building responsive applications for mobile devices.

64-bit Development Client

With PeopleTools 8.54, PeopleSoft applications will complete a journey that started with PeopleTools 8.48: the trek to a 64-bit architecture. PeopleTools 8.48 saw the UNIX application server ported to 64-bit, and that was followed by the Linux application server in PeopleTools 8.50. In PeopleTools 8.51, the PeopleSoft web server was converted to 64-bit. The applications server running on Windows Server was ported to 64-bit with PeopleTools 8.53.

The final component to be modernized in the PeopleTools 64-bit architecture is the PeopleTools Development Client. With PeopleTools 8.54, the Development Client (which runs applications such as Application Designer, DataMover, Change Assistant, nVision, Change Impact Analyzer, Application Engine, SQR, and so on) is built as a 64-bit application, taking advantage of higher memory addressing and improved performance.

Auto-completion Support for PeopleCode Editor in Application Designer

The auto-completion feature has been developed for PeopleCode Application classes, built-in classes, built-in functions, system variables and constants in PeopleCode editor of Application Designer. When an object is created, the methods or properties of the appropriate class would be shown to the Application developer when a '.' (dot) is inserted soon after typing the object. The parameter details of the method would also be shown to the user. The application developer would be able to view all the PeopleCode built-in functions, system variables, and constants with the help of a keystroke Ctrl+Space. This improves Application developer productivity so users do not have to remember all the classes and methods.

The auto-completion feature could be enabled or disabled with the help of the configurable option provided with the feature. A customization option is also provided for the auto-completion list control. With this, users can modify the auto-completion list control size.

Toolbar Button that Opens the PeopleCode Editor for the Object in Focus

New toolbar buttons for viewing Page PeopleCode and Record PeopleCode improve developer productivity. Page PeopleCode and Record PeopleCode can be viewed with fewer clicks using the toolbar rather than the menu item.

Support for PNG, SVG in Image Field in Application Designer

Application Designer supports creation of image field using PNG and SVG formats. While PeopleSoft Application Designer can create image file definitions that are of Portable Network Graphics (PNG) or Scalable Vector Graphics (SVG) formats, these image file definitions are visible only in PeopleSoft Internet Architecture (PIA).

Improved Text Search Functionality

Text search functionality has been improved in Application Designer for PeopleCode and SQL object types. The developer can fine-tune the text search by filtering search to certain categories of objects. This will yield fewer results and thus speed the search. For example, a developer can search for text only in derived type records PeopleCode and secondary page PeopleCode.

Improving Object Reference Search Functionality

In Application Designer, Field and Record objects can be searched in a set of specific object types. The developer can limit search to certain types of objects. This will yield fewer results and thus speed the search. For example, users can search only pages that use a field object instead of all the references.