

# Service Manager Feature History



## Changes to Service Manager features from ServiceCenter 5.x through Service Manager 9.41

### Table of contents

Processes and features supported by Service Manager	4
Obsolete processes and features	4
Inventory and Configuration Management	4
Asset Contract Management	4
Service Desk	4
Incident Management	5
Problem Management	5
Knowledge Management	5
Change Management	5
Release Management	5
Change Calendar (Web Services application through Service Manager 7.0)	6
Change Calendar (as part of Release Control integration since SM 7.1x)	6
Request Management	6
Service Catalog	6
Service Request Catalog (SRC)	6
Service Level Management	6
Service Lifecycle Management	6
Mobility Client	7
Work Management (available in versions up to ServiceCenter 5.x)	7
Scheduled Maintenance	7
Reporting and Business Intelligence	7
Service Wisdom – available through SC 5.1	8
Embedded ITIL best practices	8
Get-Services – replaced by Employee Self-Service in SC 6.1	8
Get-Answers – replaced by Knowledge Management in SC 6.2	8
Get-Resources – replaced by Service Catalog in SC 6.2	8
International language support	8
Service Manager Version 9.41	9
Smart Search	9
Hot Topic Analytics enhancements	9
Logical Name solution	9

Global ID solution	10
Support of Automated Service Modeling (ASM)	10
Hybrid mode	10
Service Manager Collaboration	10
Other enhancements in 9.41	10
Service Manager Version 9.35	10
Smart Analytics	10
Case Exchange	11
JRE8 support	11
Mobile Applications enhancements	11
Service Request Catalog enhancements	11
Primary key feature enabled by default	11
Out-of-box user password policy updated	12
Service Manager Version 9.40	12
Smart Analytics	12
Service Manager Reports	12
User experience improvements in the web client	12
Entity relationship management tools	13
Accessibility improvements	13
Service Request Catalog enhancements	13
Process Designer-based modules	13
Process Designer framework enhancements	14
Case Exchange	14
Mobile Applications enhancements	14
Service Manager Survey	15
Enhanced integration with UCMDB Browser	15
Support of Unicode data type for Microsoft SQL Server	15
Encryption of client keystore passwords	15
Documentation Changes	15
Deprecation in 9.40	15
Service Manager Version 9.34	16
Server RTE Changes	16
Client Changes	16
Application Changes	17
Service Manager Version 9.33	18
Server RTE Changes	18
Client Changes	18
Service Manager Version 9.32	19
Server RTE changes	19
Client Changes	24
Application Changes	28
Documentation Enhancements	30

Service Manager Version 9.31	32
Server RTE changes	32
Client Changes	36
Application Changes	37
Service Manager Version 9.30	39
Server RTE changes	39
Client Changes	43
Application Changes	43
Documentation	45
Service Manager Version 9.2x	45
Server RTE changes	45
Client Changes	46
Application Changes	46
Documentation	47
Service Manager Version 7.1x	47
Server RTE changes	47
Client changes	49
Application changes	49
Documentation changes	57
Integrations and other changes	57
Service Manager Version 7.0	58
Architecture / RTE Changes	58
Client Changes	59
Application Changes	59
ServiceCenter version 6.x	64
New Architecture and technology	65
Compliance and use of industry standards	67
Runtime Environment (RTE) enhancements	68
Client enhancements	69
Application Enhancements	71
Documentation Enhancements	72
Summary of upgrade features	72
ServiceCenter version 5.1	73
Enhancements to ServiceCenter 5.1	73
Appendix A: Product Comparison	76

## Processes and features supported by Service Manager

Service Manager supports these business processes and service management needs:

- Inventory and Configuration Management
- Asset Contract Management
- Service Management (renamed to Service Desk in ServiceCenter version 6.2)
- Incident Management
- Problem Management
- Knowledge Management
- Change Management & Change Calendar
- Release Management
- Request Management
- Service Catalog
- Service Request Catalog (SRC)
- Service Level Management
- Service Lifecycle Management
- Mobility Client
- Scheduled Maintenance
- Reporting and Business Intelligence

### Obsolete processes and features

- Report Center
- Work Management (up to ServiceCenter version 5.x)
- Service Wisdom
- Get-Services (up to ServiceCenter version 6.1)
- Get-Answers (up to ServiceCenter version 6.1)
- Get-Resources (up to ServiceCenter version 6.2)
- Enterprise Discovery (formerly Network Discovery)
- Desktop Inventory
- Desktop Administration
- MySM
- K2 Search Engine

Read the following sections for more information about each of these processes and their benefits.

### Inventory and Configuration Management

Service Manager Configuration Management is the foundation of effective IT service management because it gives you detailed information about assets and their relationships within the infrastructure. This enables you to resolve incidents more quickly, and to effectively control infrastructure changes. Combined with automated discovery tools and configuration policy compliance checks, Configuration Management promotes better decisions using the most current information about your IT infrastructure.

### Asset Contract Management

The Assets Contract Management module is part of the SM Foundation license in Service Manager 9 and enables you to add, edit, and associate assets and contracts. A typical Asset Contract would be a warranty that is associated with a specific piece of hardware. Another example is a maintenance or support contract for an office software product. The software contract type helps you monitor software license compliance.

### Service Desk

Service Desk is a starting point for all service desk interactions. It improves the efficiency of the analyst, and increases the quality of service. Service Desk puts the tools and information that analysts need at their fingertips, which empower them to manage, document, and resolve calls quickly. If your customer requires a service that the Level-One analyst cannot effectively provide, Service Desk guides the analyst through the appropriate escalation procedures. Service Manager

Service Desk integrates seamlessly with Incident Management, Change Management, and Request Management to ensure that you can restore your customer's service while adhering to associated service level agreements. In Service Manager you can easily relate records to one another; view, update, or close the related record directly from the ticket you are in or remove the relations.

Introduced with ServiceCenter 6.1, Employee Self Service is a web interface for end-users who use Service Manager occasionally to log requests and tickets, search for information and order from a catalog if the site is licensed for these modules. Self-Service ticketing is part of the service support foundation modules and provides unlimited ticket logging capability.

## **Incident Management**

Service Manager Incident Management automates workflow based on key business rules, ensuring that you notify the right technical experts and stakeholders about critical events, and that service level agreements remain in good standing. Notifications and escalations reduce operational risk, while known error correlation and diagnostic aids enable your organization to restore service to the affected customer community, ensuring customers that down-time is minimized.

## **Problem Management**

Service Manager Problem Management is a proactive problem management solution that includes problem control activities, error control processes, problem/error resolution monitoring, and resolution execution through integrated change management activities. Identifying the underlying root causes of incidents, maintaining known error records, providing trend analysis and investigation frameworks, planning for changes, and defining structural solutions restores infrastructure reliability by preventing incidents before they occur.

## **Knowledge Management**

Knowledge Management supports Knowledge-Centered Support (KCS) standards and guidelines by providing a natural language search engine and rich-text authoring tools that enable users to search, update, and author knowledge articles. Knowledge Management integrates with interactions (formerly known as Service Management Calls), incident, and problem management so that users are able to search for and use knowledge from existing incidents or interactions while attempting to resolve a new incident or problem. Users can also use this integration with interactions, incidents, and problems to create new knowledge. The rich-text editor allows users to include image files and document files of various types as attachments that can be linked to other documents or included as part of an existing document.

Knowledge Management administration provides Knowledge Management Administrators (KM Admin) with the capability to manage document categories, document groups, and user profiles so that users have access to the documents they need to view and maintain while at the same time limiting access to only those documents that are appropriate for particular groups of users and categories of documents. Knowledge Management also provides KM Administrators with document types and document views to manage the amount and type of data displayed in knowledge documents. The out-of-box system provides the standard document types (error/message/cause, external, question/answer, problem/solution, and reference).

Knowledge Management provides a document workflow that controls document creation and approval. It provides document status information and controls changing documents and retiring documents. Starting with Service Manager 9.30, the workflow can be easily designed and tailored using the Process Designer. The out-of-box workflow includes all phases of a typical knowledge article lifecycle such as Draft, Review, Published, Retired.

## **Change Management**

Service Manager Change Management enables you to minimize operational risk and maximize the benefits of change by following predefined business rules involving appropriate stakeholders. Service Manager Change Management has best-practice process flows that enable your organization to

- Analyze the effect of infrastructure change on the current environment
- Plan and assign multiple tasks to available resources
- Develop a back-out strategy to minimize risk
- Make changes to a group of assets within one change record, and
- Automatically update Service Manager Configuration Management to ensure data integrity and asset tracking accuracy.

Change Management integrates with Incident Management, Problem Management (known as Root Cause Analysis in versions prior to ServiceCenter version 6), Work Management, and Configuration Management. Change Management gives you all the controls you need to manage infrastructure change activities effectively.

## **Release Management**

Release Management is a category of Change Management that ensures the Configuration Management Database (CMDB) is kept up to date, changes are appropriately managed and all new software and hardware are stored in the Definitive Software Library (DSL) and Definitive Hardware Store (DHS) respectively. Once one or more changes are developed, tested,

and packaged into releases for deployment, Release Management is responsible for introducing these changes and managing their release. Release Management also contributes to the efficient introduction of changes by combining them into one release and deploying them together. The ability back out from and terminate the change have been included with this category for optimum management of release changes.

## **Change Calendar (Web Services application through Service Manager 7.0)**

The Service Manager Change Calendar is an integrated Web Services application that enables you to schedule changes and tasks with minimal impact to the organization. Changes can be viewed based on filters, and then moved to the date and time with the least change impact. The Change calendar uses a MS Outlook like approach to change views.

**Note:** The legacy Change Calendar for Service Manager is no longer available from Service Manager 9.20. It is replaced by a more powerful Change Calendar through integration with HP Release Control.

## **Change Calendar (as part of Release Control integration since SM 7.1x)**

Service Manager has a tight integration with the Release Control application, including an integrated Change Calendar, visible directly from within Change Management, Incident Management and Service Desk interactions as well as Change Assessment capabilities from within Change Management.

## **Request Management**

Request Management is a fulfillment engine with a predefined catalog of goods and services that support effective management of all IT services through a common integrated solution. Managing both product and service requests, Request Management adds to existing Incident Management solutions, enables you to track all IT infrastructure costs from acquisition through the service lifecycle, and increases the overall contribution of the service organization.

## **Service Catalog**

The Service Catalog is a goods and services catalog that supports both individual goods and services along with combined bundles. A Service Catalog contains a comprehensive list of enterprise products and services available to internal and external customers, depending on their business role. Users submit service requests that follow the usual planning and approval workflows. Service Manager fulfills service requests by using an internal interface to route the requested data to the appropriate Service Manager application. The application that delivers the requested product or service opens any required fulfillment tasks.

Service Catalogs integrate seamlessly with Service Level Management to measure and report on service level objectives for service request fulfillments. Service Catalogs set expectations for both customers and service providers about the delivery, quality, and level of services. Any Service Manager Business Service owner can create or maintain a Service Catalog using a simplified Service Manager interface and wizards to guide them in adding or changing service offerings.

## **Service Request Catalog (SRC)**

Provided in Service Manager 9.21 and higher, Service Request Catalog offers a new web-based User Interface for the Service Manager Service Catalog module, including approval capabilities. Starting with Service Manager 9.30, the SRC interface is also used as an Employee Self Service interface to open service requests to the IT helpdesk.

Starting from 9.31, Service Request Catalog can be used on tablets. The tablet support is delivered as content packs before 9.33, and those content packs might not work with patch or hot fix releases delivered later. Starting from 9.33, the tablet support works for all the SRC releases. For detailed information, refer to the [Support Matrix](#) document of each Service Manager release.

## **Service Level Management**

Service Manager Service Level Management is a complete solution that helps you align IT service activities with business objectives, through the development and fulfillment of offered services, and through tracking the costs associated with those services.

Service Level Management has two fundamental Service Level Management domains: Service Level Agreement Management (operational management) and Service Contract Management (financial management). Service Level Objectives add more flexibility to the Service Level Management module and enable administrators to define escalations more clearly. Service Level Management also provides retroactive reports on service level compliance, as well as day-to-day insight to ensure success in operational activities.

## **Service Lifecycle Management**

Service Manager 7.00 provides a complete set of integrated lifecycle processes that support business and IT services from inception to retirement. A service is defined as anything provided by IT to satisfy a range of business needs. Services may be delivered to individuals, departments, or an entire enterprise. Sample services may include: enterprise systems such as

email, line of business applications such as a billing system, and fulfillment of individual employee requests such as a personal workstation backup service or an office automation bundle.

The lifecycle activities and processes supported include:

- Modeling service instances using Configuration Management.
- Building and visualizing relationships to IT systems and CIs
- The ability to publish service definitions in the Service Catalog
- Defining supported Service Levels for each definition in the Service Catalog
- Self service requesting of services for individuals and departments
- Fulfilling service requests with Change or Request Management
- Tracking the full lifecycle of subscriptions to services, from request, to fulfillment, to cancellation
- Monitoring and supporting the services through Incident, Change, and Problem Management
- Measuring and analyzing service delivery against metrics and goals
- Optimizing service delivery and support

## **Mobility Client**

The mobility extension works on a wide range of smart phones, such as iPhone, Android, Palm, Blackberry. It enables incident analysts to update incident tickets in real time when working away from their desk, reassign tickets to the proper assignment group and immediately view newly assigned high priority tickets, even when they are away from the computer. The mobility extension is also available for change approvers, so they can approve changes anywhere and anytime, even outside of regular working hours. There is also a new Service Manager mobile client delivered on the HP Anywhere platform. This solution provides a mobile mini-application running on most modern mobile devices. The HPA app provides the same functionality described above as well as new capabilities for the self service user.

## **Work Management (available in versions up to ServiceCenter 5.x)**

ServiceCenter Work Management is a task scheduling and resource management tool for ServiceCenter operations activities. ServiceCenter Work Management brings managers and technical staff an enterprise-wide planning solution for efficient and dynamic personnel allocation. Work Management integrates with ServiceCenter Incident Management, Root Cause Analysis, Request Management, and Change Management. You can ensure that assignments are based on both task priority and technician expertise or availability, resulting in superior quality of service at the lowest possible cost.

## **Scheduled Maintenance**

Service Manager Scheduled Maintenance helps you define and schedule recurring maintenance tasks that support your organizational infrastructure. You can reduce unplanned outages and system failures by ensuring the timely review and care of all service assets across the organization.

Scheduled Maintenance makes it easy for Service Manager users to know when to initiate a standard maintenance task. When you use Scheduled Maintenance to define and schedule maintenance tasks, it automatically generates the appropriate incident tickets, change requests, or Request Management quotes. Use Service Manager Scheduled Maintenance proactively to manage infrastructure assets by allowing your users to create preventive maintenance tasks directly from Inventory and Configuration Management records.

## **Reporting and Business Intelligence**

Service Manager ReportCenter was available until Service Manager 7.0, and was based on Crystal Reports®. It is a desktop reporting solution that IT managers and others use to support their business and infrastructure objectives. The ReportCenter console simplifies the path from raw data to desktop report access, and it includes customization features that you use to optimize reports for unique information requirements.

ReportCenter's offering changed in version 6.2. A template set of Crystal reports for use with Crystal Enterprise XI is provided with Service Manager, including new templates to monitor knowledge and knowledge usage, as well as improve incident management reporting, license tracking and more. Please refer to the ReportCenter online guide to help you choose report templates to use. An ODBC driver is provided for integration and reporting using the ServiceCenter P4 database.

HP ServiceCenter up to version 6.1 integrated with BI Portal, a portal application to Business Objects tools.

- With ServiceCenter 6.2, Decision Center became available. HP DecisionCenter is a software system that: 1) lets IT optimize staff resources against service-levels, business impact and cost; and 2) creates a closed-loop environment for improving IT service management and ensuring alignment with business objectives. DecisionCenter is the only IT decision support tool that uses analysis and simulation against historical service data to maximize the business effectiveness of IT staff resources. At this time, DecisionCenter software is in obsolete status and was replaced by HPs Executive Scorecard or the Westbury SMI solution.

- Starting with Service Manager 7.11, Crystal Reports is available to Service Manager customers through an OEM agreement and Service Manager is shipped with a set of re-factored reports.

## **Service Wisdom – available through SC 5.1**

Service Wisdom is an interactive reference guide that helps organizations to align their organizational resources with ITIL industry standards and best practices. Service Wisdom documents best-practice process flows, explained processes in detail, and recommended resource requirements to help you transform a reactive service organization into a world-class, proactive service provider. These guiding principals of ITIL are mapped to Service Center activities to aid organizations in deploying an ITIL aligned ServiceCenter implementation.

## **Embedded ITIL best practices**

Starting in Service Manager 7.10, the ITIL processes (Service Desk, Incident Management, Change Management, Problem Management, Known Error, Configuration Management, Service Level Management) were reworked to be ITIL v3 compliant. Extensive new documentation includes process descriptions, and work instructions. Additionally, new out-of-box data includes best practice users, and roles. Starting with Service Manager 9.30, the Process Designer content releases delivered out-of-the-box ITIL-v3 aligned flows for including Change Management (Service Manager 9.30), and Help Desk (Service Desk, Incident Management, and Problem Management; for Service Manager 9.32). Process Designer introduced workflows for Knowledge Management in Service Manager 9.30.

## **Get-Services – replaced by Employee Self-Service in SC 6.1**

Get-Services is a self-service interface where employees can submit an online service request. This solution streamlines the process of reporting a problem, and automatically routes it to the person who can fix it. Technicians can open, close, view, and update tickets using the World Wide Web. Change technician functionality enables change technicians to view, close, and update assigned change tasks and phases through a customizable Web user interface.

Get-Services was made end-of-life with ServiceCenter 6.1 and was replaced by a self-service ticketing functionality (ESS) that is provided with the Service Support Foundation basic modules (Incident, Service, and Configuration). Self-service ticketing allows enterprise, non-Service Manager users to create tickets for response from the helpdesk. Incidents and changes that are opened on the backend by the helpdesk are visible to the end users, surfacing the numbers opened and their status. Self-Service users require an operator ID and contact record that can also be created by self-registration.

## **Get-Answers – replaced by Knowledge Management in SC 6.2**

From the service desk to the end-user, Get-Answers served as a complete knowledge management solution. Get-Answers is an integral part of the consolidated service management strategy that provides a robust authoring and tailoring environment to create and distribute diagnostics and product information to service desk technicians and end-users.

A new Knowledge Management module is now integrated into Service Manager starting with version 6.2 and is the go-forward Knowledge Management solution. This module is fully integrated with Service Manager. Interactions and Incidents are used to search and apply solutions if they are closed along with a knowledge base documents that were created by Service Manager users.

Get-Answers is no longer supported with Service Manager.

## **Get-Resources – replaced by Service Catalog in SC 6.2**

Get-Resources enables employees to access the assets and services that they need to perform their jobs in a cost-effective manner. The automated workflow streamlines the request and approval processes, which improves service efficiency while adhering to corporate standards. Get-Resources can display the ServiceCenter Request Management catalog, which shows available services and goods to the end user community.

Get-Resources will be replaced going forward with the Service Catalog module that is available in ServiceCenter 6.2. . This module is fully integrated into Service Manager and can interface to request management or change management for fulfillment. The new catalog module employs wizards to be used by business users to create a goods and services catalog for end users to order through self-service.

Get-Resources is no longer supported with Service Manager.

## **International language support**

Internationalization (I18N) refers to the ability of a software product to support global requirements such as multi-byte data capture and storage, and multiple currencies. You can find details about I18N on various Web sites that discuss I18N compliance.

Localization (L10N) refers to the specific modification of software forms and messages that make it appropriate for use by customers using different languages. You can find details about L10N on various Web sites that discuss L10N compliance.



HP releases localized versions of the ServiceCenter or Service Manager software and documentation in several languages. For details about the supported languages of each individual release, refer to the *Language Pack Release Notes* of the release.

**Note:**

UTF-8 (Unicode) support enables data storage in many languages, including those that use double-byte character sets.

### **Service Manager Open Localization Toolkit**

In order to support additional languages, we have enabled partners or HP field offices to localize Service Manager into virtually any language using the Service Manager Open Localization Toolkit. This toolkit can extract all the strings necessary for localization from a Service Manager instance, and package them to be sent to a translator. It then takes the translated strings and creates language pack installers that the partner can then send to their customers.

The following versions were released:

- Service Manager Open Localization Toolkit 2.50: Supports Service Manager 7.10 and 7.11.
- Service Manager Open Localization Toolkit 3.20: Supports Service Manager 9.20 and 7.11
- Service Manager Open Localization Toolkit 9.30: Supports Service Manager 7.10, 7.11, 9.20, and 9.30
- Service Manager Open Localization Toolkit 9.40: Supports Service Manager 7.10, 7.11, 9.20, 9.30, and 9.40

A functional patch, providing right to left support text layout for languages such as Arabic and Hebrew was released for Service Manager 7.11 and later and is available on the support web site.

## **Service Manager Version 9.41**

Service Manager 9.41 brings several powerful features to you. With Smart Search, you can conveniently search across more sources of information than ever before. With the integration features such as Logical Name or ASM Integration, you can integrate Service Manager more smoothly with HP UCMDB. And with Service Manager Hybrid mode, you will be able to easily migrate most legacy features to Process Designer with much less manual effort. In addition, the Enterprise Collaboration-based messaging is now replaced with Service Manager Collaboration, which can be integrated with Microsoft Office Lync.

### **Smart Search**

Smart Search is a brand new search experience that enables you to search across Service Manager modules and into a variety of content such as SharePoint sites (including SharePoint documents with entitlement), static webpages, and shared folders. You can integrate multiple knowledge libraries by configuring different search connectors, so that all change analysts, incident analysts, request analysts, service desk analysts, problem analysts, change managers, incident managers, request managers, service desk managers, problem managers, and SRC users can search all the information that they can access.

### **Hot Topic Analytics enhancements**

After you enable Smart Analytics in an out-of-box system, you can use Hot Topic Analytics for the Service Desk, Incident Management, and Problem Management modules. Additionally, you can access Hot Topic Analytics from the report dashboards for these modules. In terms of knowledge articles, you can easily create them based on the analysis performed by Hot Topic Analytics.

When you review the hot topics suggested by Hot Topic Analytics in Incident Management, you can use the Set Parent action to open a wizard, and then select the parent and child incident. In addition, new RESTful APIs are provided for Hot Topic Analytics, Smart Ticket, and Smart Search in this release.

### **Logical Name solution**

In previous versions of Service Manager, the device table used the logical.name field (labeled CI Identifier) as both a unique key field and a CI display name field, and used the id field (labeled CI Name) to display CI identification numbers. As a result, duplicate CI names were not allowed, while some external systems that integrate with Service Manager, such as HP Universal CMDB (UCMDB), allow duplicate CI names, which caused so-called "duplicate logical names issue." Moreover, other modules that consume CI data, such as the Incident and Change modules, cannot have their CI data automatically synchronized when CIs are renamed or removed, which leads to data integrity loss.

The Logical Name solution is introduced in the 9.41 release to completely solve the longstanding issue. This new solution is to apply a relational data model mechanism for both the device table and the reference tables (probsummary, cm3r, and so on), so as to not only keep the CI data integrity across modules in Service Manager but also remove the need for redundant data in the entire system. As a consequence, once a CI name is changed, the reference records (such as Change and Incident records) can reflect the change and display the correct CI name immediately.

## Global ID solution

Service Manager 9.41 supports HP's Global ID solution for product integrations such as HP Service Asset Configuration Management (SACM). Previously, the identification of CIs from the UCMDB and UD solutions was difficult, and potentially resulted in the duplication of CIs in products such as Service Manager, Asset Manager, and Run-time Service Model. The Global ID solution uses the UCMDB global ID as a reconciliation key in the data push framework, thus facilitating the reconciliation of CIs across Service Manager and other products.

## Support of Automated Service Modeling (ASM)

As version of 9.41, Service Manager supports the ASM functionality in the UCMDB Browser. Service CIs and consumer-provider relationships that are discovered by ASM can be pushed to Service Manager; additionally, you can tailor Service Manager such that Service Manager users can access ASM in the context of a business service, and access Impact Simulation in the context of an affected CI. Support of ASM enables Service Manager users to view the accurate service trees that are discovered by ASM and facilitates service modeling in Service Manager.

## Hybrid mode

Service Manager 9.41 Hybrid is designed explicitly to ease the transition between Service Manager Classic and Service Manager Codeless by enabling you to continue to take advantage of your previous investments in legacy tailoring. In Hybrid mode, Process Designer technology can be fully functional, but the mode also supports legacy technology such as Format Control.

This mode is available only to customers who are upgrading from a Service Manager 9.3x system that has Process Designer Content Pack 9.30.2 (PDCP3) applied. When you upgrade to Service Manager 9.41 Hybrid, a migration tool that is embedded into the Applications Upgrade Utility automatically migrates some legacy technology to Process Designer.

## Service Manager Collaboration

As of version 9.41, HP Service Manager Collaboration supersedes the previous HP Enterprise Collaboration (EC) based instant messaging solution. As an instant messaging tool embedded in Service Manager, Service Manager Collaboration enables Service Manager IT operators to collaborate in real time (or anytime) when handling an Interaction, Incident, Incident Task, Request, Request Task, Problem, Problem Task, Change, or Change Task. Service Manager users who do not log on to Service Manager but are available on Microsoft Office Lync can also be invited to a Collaboration conversation.

## Other enhancements in 9.41

In addition to all the features mentioned in earlier sections, this release also includes the following enhancements:

- Service Manager Collaboration: As of version 9.41, HP Service Manager Collaboration supersedes the previous HP Enterprise Collaboration (EC) based instant messaging solution. As an instant messaging tool embedded in Service Manager, Service Manager Collaboration enables Service Manager IT operators to collaborate in real time (or anytime) when handling an Interaction, Incident, Incident Task, Request, Request Task, Problem, Problem Task, Change, or Change Task.
- Service Level Management is enhanced in this version to support calculating the Process Target expiration based on assignment groups, so that you can monitor the performance of internal/external teams as per the agreed Operational Level Agreements or Underpinning Contracts.
- HTML Editor white-list: The HTML Editor enables you to visually add and edit rich text content formatted with HTML tags. Though the HTML Editor is powerful, web sites may be abused without a proper security control. Therefore, as of HP Service Manager 9.41, you can use the HTML Editor white-list to define a list of allowed HTML elements.
- Demo data unload file: Service Manager 9.41 provides a demo data unload file (demodata.unl) for testing and demonstrating the 9.41 new features after you have upgraded to the 9.41 applications on a fresh installation environment.
- To-Do alerts: To-Do alerts are operator-specific notifications that appear in a floating window at the top of the screen immediately after an operator logs in to the system. The window appears only when there are pending alerts. The operator can view and acknowledge the To-Do alerts, and check the details of the records listed.

## Service Manager Version 9.35

In Service Manager 9.35, you can find exciting features such as enhancements to the Smart Analytics features, inclusion of the Case Exchange features, and enhancements to SRC. These features greatly enrich the functionalities of the Service Manager 9.3x release series, and enable the product to better serve you before you move to the 9.4x release series.

## Smart Analytics

Service Manager 9.35 Smart Analytics introduces the following enhancements:

- You can install Image Servers in a distributed setup.

- Hot Topic Analytics is provided for the Service Desk, Incident Management, and Problem Management modules.
- The Query Editor is added to Hot Topic Analytics so that you can build complex queries to refine the intelligent analysis performed by Hot Topic Analytics.
- You have more tailoring choices (for which corresponding tailoring instructions are provided).

## Case Exchange

Service Manager 9.35 includes all the functionality of the Case Exchange Content Pack for Service Manager 9.34. You can use the Case Exchange framework to set up the following integrations for the Incident Management module:

- The integration of two Service Manager systems  
Service Manager 9.35 includes two integration templates: CaseExchangeSM\_SM\_Pull and CaseExchangeSM\_SM\_Push. These two templates allow you to set up the integration with the other Service Manager system by using the Pull or Push mechanism. One improvement made in this release is the ability to turn on the attachment transferring functionality for both Service Manager systems when the Push mechanism is used.
- The integration of Service Manager and Service Anywhere  
Service Manager 9.35 provides an integration template: CaseExchangeSM\_SAW. This template allows you to set up the integration with a Service Anywhere system by using the Pull mechanism.

## JRE8 support

As Oracle does not provide further updates for Java SE Runtime Environment (JRE) 7, HP Service Manager 9.35 starts supporting JRE 8.

## Mobile Applications enhancements

Service Manager 9.35 Mobile Applications introduces the following new enhancements:

- Self-service user interface  
As of Service Manager 9.35, the Employee Self-service (ESS) functionality that was previously available through content packs is now incorporated directly into Service Manager. Users can use the self-service user view to perform tasks like searching the knowledge base, submitting a self-service request, or checking tickets.
- New mobile operating system support  
Service Manager 9.35 Mobile Applications supports iOS 8.x.
- The maxRequestPerSecond parameter  
The maxRequestPerSecond parameter in the HP Service Manager Mobile Applications configuration file (web.xml) defines the maximum number of requests allowed per second for one user session from the Service Manager Mobile Applications client.

## Service Request Catalog enhancements

Service Request Catalog 9.35 introduces the following new enhancements:

- To ensure secure data transmission, the default value of the src.security.secureLogin parameter is set as true to enable a TLS/SSL connection between the Service Request Catalog web application server and the web browser.
- The Lookup fields in the dynamic user options and the Checkout Panel are automatically filled when only one result is returned.
- Approvers can check the Request ID and its affiliated Cart Item IDs as necessary, so that it is easy for them to identify the cart items to be approved or denied.
- You can use variables as the default values for fields in the Checkout Panel.
- Change approvers can view the attachments in the Change approval records when they approve Change requests.
- Service Manager client users are able to save the existing User Selections in a catalog item as a template, and then apply the template to one single catalog item or mass-apply it to selected catalog items.

## Primary key feature enabled by default

In Service Manager 9.35, the primary key feature is enabled by default. Therefore, you no longer need to specify primary\_key\_mode:1 in the sm.ini file to enable the primary key feature. Additionally, the primary\_key\_mode server configuration parameter is now obsolete and is therefore removed. For example, when you add a key to a dbdict record, the primary key type is always available for selection.

The rest of the primary key feature behaves almost the same way as in previous releases, except that Service Manager does not convert a unique key to a primary key unless you explicitly change the unique key to a primary key either in the Service Manager client or by running the `system_addconstraint` command.

## **Out-of-box user password policy updated**

Compared with previous versions, Service Manager 9.35 uses an updated user password policy to elevate the protection level for user passwords. This includes adding a default value for some settings and changing the selected or unselected state of some options. For details, refer to the Service Manager 9.35 Release Notes.

## **Service Manager Version 9.40**

Service Manager 9.40 has been designed to improve the productivity of your IT Service Desk and harness the analytical potential of big data. It is available in two modes: Service Manager Codeless and Service Manager Classic.

- Service Manager Codeless incorporates the Process Designer functionality that was previously available through content packs. In this mode, Process Designer workflows and functionality are fully-implemented in Service Desk, Incident Management, Problem Management, Change Management, redesigned Request Fulfillment, Knowledge Management, and Service Level Management. This mode requires much less “coding” than previous releases.
- Service Manager Classic retains legacy workflows and functionality, with the exception of Service Level Management, which is re-factored to use Process Designer-based workflows, and Knowledge Management, which has been based on Process Designer since the Service Manager 9.30 release.

Compared to previous releases, several key features are added in Service Manager 9.40. For example, the Smart Analytics feature helps you discover incident trends and identify problem candidates by mining your data. The Service Manager Reports feature delivers you operational reports and dashboards to speed up analysis and time to resolution. Key features and enhancements in this release are summarized in the following sections.

### **Smart Analytics**

Smart Analytics heralds the debut of the “Big Data” edition of Service Manager. Using an OEM-licensed version of HP IDOL, this powerful Service Manager-IDOL integration drives automation further into ITSM processes by mining unstructured data and by extracting information from different types of data. It can help you improve Help Desk management processes, reduce the time and effort expended on interaction submissions, and accelerate the Problem Management process.

Smart Analytics enables Service Manager to become a more intelligent and efficient system by extracting and understanding your content. It includes the following major features:

- Smart Ticket: Smart Ticket enables you to quickly submit a Service Desk record by entering a description or attaching a picture. Smart Analytics intelligently populates other fields, such as the category or affected services, by extracting and analyzing the content that you entered in the record.
- Hot Topic Analytics: Hot Topic Analytics intelligently displays an interactive diagram indicating the hot topics among recent incidents. This enables you to easily discover incident trends and identify problem candidates.

### **Service Manager Reports**

Service Manager Reports provides reports and dashboards that can enable faster analysis and improved time to resolution. With data organized into various chart formats, you can gain global information about critical activities or metrics. Report managers or administrators can schedule Service Manager Reports to send reports or dashboard information to relevant users or user groups at specified intervals.

This feature provides light-weight reporting for operational data. As such, the reports are designed to retrieve, represent, and visualize at most 100,000 records out of millions. In addition, this initial release of Service Manager Reports has minimal calculation capabilities. Therefore, you are recommended to use third party business intelligence tools when you define analytic reports against the entire dataset or generate calculation-intensive reports.

### **User experience improvements in the web client**

In this release, further user experience improvements are made in the web client of Service Manager. These improvements make it easier for you to locate information or navigate among user interface elements, thus boosting your working efficiency.

Key user experience improvements in this release are as follows:

- New system navigator: The system navigator is provided in two modes: the sidebar mode and the accordion mode. In the sidebar mode, the system navigator only displays the icons of the top-level menu items, giving you more workspace, whereas in the accordion mode, the traditional system navigator is displayed. You can customize the icons and the colors of the system navigator based on your branding needs.

- Vertical layout: A new vertical layout for the list pane and the detail pane is provided so that more information is displayed in the detail pane and more records are listed in the list pane. To compensate for the effect that less columns are displayed in the list pane, when you hover the mouse over a record ID in the record list, a hover window is displayed, with the values of all the relevant fields.
- Color indicator: The color indicator applies a color mark-up on a field if the value of the field matches pre-defined settings, making it easier for you to identify such fields. The color indicator applies to record lists, detail forms, and reporting. For example, a color indicator may mark the Priority field in the record list.
- Quick help: This release of Service Manager provides a quick help that lists all the keyboard shortcuts in the web client. You can open this quick help by either clicking the Help button or pressing Ctrl+Alt+/.

## Entity relationship management tools

Three entity relationship management tools are introduced in this release: Entity Relationship Diagrams utility, Missing Reference Report utility, and Relationship manager. Both the Entity Relationship Diagram utility and the Missing Reference Report utility consume the output provided by the Relationship Manager.

- The Entity Relationship Diagram utility presents entity relationships for selected files and fields in your database in interactive diagrams (called Entity Relationship Diagrams or ERDs). You can also export the diagrams to PDF format.
- The Missing Reference Report utility generates a report for selected files to help you identify and solve potential data integrity problems (missing references).
- The Relationship Manager is a tool that can automatically discover entity relationships between tables and fields in your HP Service Manager system by querying the erddef, link, and relatedObjectMap tables.

## Accessibility improvements

In addition to the default accessibility functions of the web client, HP Service Manager 9.40 also includes accessibility support for the following components:

- Embedded Service Manager Calendar
- Service Manager Reports
- Process Designer Request Fulfillment

## Service Request Catalog enhancements

Service Request Catalog (SRC) 9.40 introduces the following new enhancements:

- Notification of request updates: To improve the overall communication between IT and end users, a new flag is added to the **Your Requests** list to inform the requesters about updates that are made to their requests by IT operators.
- Copy read-only fields: You can now copy read-only fields in SRC pages such as Catalog Item Details, Request Details, Approval Details, and Subscription Details. For example, you can copy the request ID of an item in the Your Request Details View page.
- SRC user interface: The SRC user interface is updated to bring better user experience.
- Approve requests and view request details: You can now approve or deny request fulfillment records on the Your Approvals Request page, and view their current approvals on the Request Approval Details page.

## Process Designer-based modules

In Service Manager 9.40 Codeless, the following modules are fully reimplemented on Process Designer workflows:

- Help Desk: Service Manager Codeless incorporates all the functionality previously included in Process Designer Content Pack 9.30.3 for the Help Desk modules (Service Desk, Incident Management, and Problem Management). New enhancements are also made in these modules.
- Change Management: The Change Management application in Service Manager Codeless incorporates all the functionality previously included in the Change Management module of Process Designer Content Pack 9.30.3, and further enhancements have been made. The Process Designer based Change Management workflows (including Change and Change Tasks workflows) are ITIL aligned and easier to maintain than the legacy ones.
- Request Fulfillment: The Request Fulfillment application is redesigned and reimplemented on Process Designer to enable business staff to improve their productivity and product/service quality, reduce the cost of providing services and the effort of requesting and receiving services, and increase the control level of an organization's services and the number of fulfilled requests.

- Service Level Management: Service Level Management in this release implements Process Designer for the management of Service Level Agreements (SLAs), Underpinning Contracts (UCs), and Operational Level Agreements (OLAs). All three types of service agreements are now treated as equal, and the relationships between them are clarified to show the OLAs and UCs as supporting (underpinning) agreements to an SLA. In addition, some terminology changes are made, for example, from “service level objectives” to “service level targets”, from “response objectives” to “process targets”, and from “availability objectives” to “service targets”.

**Note:** The Service Level Management changes apply to both Service Manager Classic and Service Manager Codeless.

- Knowledge Management: This release includes a number of small enhancements to Knowledge Management. Reference documents now have a new "Subtype" field to support a wider variety of documentation types, which include Service Design Package, Service Quality Plan, Service Improvement Plan, Business Case, Project Information, and Availability Plan.

## Process Designer framework enhancements

This release includes the following enhancements to the Process Designer framework:

- Workflow viewer and workflow editor enhancements: The user experience of viewing, creating, and editing Process Designer workflows is enhanced. For example, you can now copy and paste phases within a workflow, add descriptions to transitions between phases, and view the description of a phase by hovering the mouse over the phase in the workflow viewer.
- Condition Editor enhancements: The Condition Editor widget is completely redesigned with an easy-to-use graphical interface.
- Task Planner enhancements (Service Manager Codeless only): Task Planner is now available for Request Fulfillment as well as for Change Management, and can be used at both the record and model level. The Task Information section in change models, changes, request models, and requests now contains a graphic display of the tasks that are planned for that record. You can open Task Planner directly from this section by clicking **Edit**.
- New and enhanced rule types: In this release, some new rules are offered. They include the Popup Message Box rule, the Assignment Rule rule, the Run Action rule, and the Run Scheduled Action rule. In addition, the Start or Stop Clock rule has been enhanced to enable you to start or stop an HP Service Manager clock to measure elapsed time.
- Improved development auditing: Changes to Process Designer elements, such as workflows, phases, or rules, are now logged in the devaudit table. This allows you to track the customizations that you make by using Process Designer, and to unload them from your development environment.

## Case Exchange

This release of Service Manager incorporates all the functionality of the Case Exchange Content Pack for Service Manager 9.34. This functionality makes use of the Case Exchange framework and enables the setup of the following Case Exchange integrations for the Incident Management module:

- The integration between two Service Manager systems  
Service Manager 9.40 provides two out-of-box integration templates: CaseExchangeSM\_SM\_Pull and CaseExchangeSM\_SM\_Push. These two templates allow you to set up the integration with the other Service Manager system by using the Pull or Push mechanism respectively.
- The integration between Service Manager and Service Anywhere  
Service Manager 9.40 provides an out-of-box integration template: CaseExchangeSM\_SAW. This template allows you to set up the integration with Service Anywhere by using the Pull mechanism.

## Mobile Applications enhancements

Service Manager 9.40 Mobile Applications introduces the following new enhancements:

- Self-service user interface: As of Service Manager 9.40, the employee self-service (ESS) functionality that was previously available through content packs is now incorporated directly into Service Manager. The Service Manager Mobile Applications self-service user view is intended for end-users as an entry point to Service Desk and provides a simplified Service Desk interface for users to perform tasks like searching the knowledge base or submitting a self-service request.
- New mobile operating system support: Service Manager 9.40 Mobile Applications now supports iOS 8.x.

## Service Manager Survey

In addition to allowing you to set up a scheduled survey through the survey integration, this release of Service Manager also provides the Service Manager Survey tool, which enables you to implement email surveys in Service Manager independently without integration with a third-party survey tool.

The Service Manager Survey tool is based on an HTML Email solution (JavaMail), and enables users to manually send individual surveys directly from a record to selected users. Additionally, it enables the system to automatically send scheduled surveys to specified users through an out-of-box internal survey connector based on the survey integration framework.

## Enhanced integration with UCMDB Browser

In this release, once you have enabled an integration to UCMDB and UCMDB Browser, a **Primary CI History in UCMDB** tab is added for each problem record whose Primary CI is synchronized from UCMDB. You can view the CI changes on that primary CI for root cause investigation.

## Support of Unicode data type for Microsoft SQL Server

Microsoft SQL Server relies on database collation to support a specific language, and most languages do not share the same collation. Because prior to version 9.40, Service Manager used the VARCHAR, CHAR, and TEXT data types to store text strings in a Microsoft SQL Server database, it did not support multiple languages when running on a SQL Server database, due to the collation difference. This release of Service Manager is enhanced to support the Unicode data type on SQL Server, so that multiple languages can be supported.

During a new installation of the Service Manager 9.40 server, if you select the **Use Unicode Data Type** check box for SQL Server when you run the server configuration utility, Service Manager creates data with the Unicode data type when it loads the applications and demo data, except for these system tables: dbdict, licenseinfo, lock, and lockshared.

The following table details the mapping between the old and new data types.

Non-Unicode data type	Unicode data type
VARCHAR	NVARCHAR
CHAR	NCHAR
	<b>Note:</b> This type is used when the CHAR field length is greater than 1.
TEXT	NVARCHAR(MAX)

## Encryption of client keystore passwords

This release of Service Manager supports the encryption of keystore passwords in the Windows and web clients.

The Windows client keystore password that you use is automatically encrypted and stored in the following file:

```
<Your user workspace>  
dir>\ServiceManager\workspace\metadata\plugins\org.eclipse.core.runtime\settings\com.hp.ov.sm.client.eclipse.bas  
e.prefs
```

For the web client, the *keystorePassword* parameter has been removed from the web tier configuration file (web.xml) since Service Manager 9.34p2, and you must enter your web client keystore password in a webtier.properties file that is located in the following folder:

```
<Customize-Folder>/config/webtier.properties (<Customize-Folder> is the folder specified in the customize-folder  
parameter in the web.xml file.)
```

When the web application server is started, Service Manager changes this value to an encrypted string.

## Documentation Changes

As Service Manager 9.40 is offered in two modes, Service Manager Codeless and Service Manager Classic, the Service Manager Help is now split into two versions, correspondingly. You must ensure that you install the appropriate version of the help server.

Some documents, such as the Release Notes, apply to both Service Manager Classic and Service Manager Codeless. Content that applies to one mode only is highlighted as such in these documents.

## Deprecation in 9.40

As of this release, the following features are deprecated:

Feature Name	Notes
SCSMTP	You can use SCAuto email instead to enable inbound email.
SCAuto Fax and Pager	You can use the Service Manager Email solution instead for notification purposes.
MySM	This feature is replaced by Service Manager Reports.
K2 Search Engine	This search engine requires a version of Service Manager applications earlier than 9.30, which is not supported by Service Manager 9.40 server and client.
Web tier spell-checker	Modern web browsers support spell check natively. Therefore, the spell check function that is built into the Service Manager web tier is no longer supported.

## Service Manager Version 9.34

Service Manager 9.34 provides a fresh look and feel to the web client while keeping the overall day-to-day user experience that users are used to. In addition, several other highly useful new features and enhancements are added. For example, the case exchange framework, time period management, and Service Manager calendar. These new features and enhancements are summarized in the following sections.

### Server RTE Changes

#### JavaScript engine performance improvements

Prior to Service Manager 9.34, when creating a JavaScript host object, Service Manager initialized the object from scratch. This process was time-consuming and memory-consuming.

Service Manager 9.34 improves the JavaScript engine performance through the following implementations:

- Setting the prototype of a newly created JavaScript object instead of initializing the object from scratch
- For a JavaScript class instance that should be a singleton, caching the instance object instead of creating a new object every time

These improvements significantly reduce the memory usage of the JavaScript engine, and thus JavaScript engine garbage collection occurs less frequently than before.

### Client Changes

#### User experience improvements in the web client

HP Service Manager 9.34 provides a fresh look and feel to the web client. We improved usability by adding an optional auto-complete feature as well as a new date picker widget. In addition, the message bar got a makeover.

##### *New look and feel*

The new look and feel of the web client follows a clean and modern design that aligns with the HP brand. The new design refreshes almost all user interface (UI) elements, such as headers, toolbars, and icons. These improvements help users to focus on the information, so that they can find the information they need more easily.

##### *Date picker*

The new date picker for the Date control provides a more efficient way to select a date and time. The new date picker supports keyboard shortcuts, and it no longer opens a new window.

##### *Auto complete*

The auto complete functionality in the Comfill widget displays matching values as you type. You can quickly select a value from the list, so you no longer need to jump back and forth through pages to select the value for the field.

##### *Message bar*

The new message bar floats over a page so that the content of the page no longer moves down. The message bar uses three background colors (green, yellow, and red) to identify the type of the message (info, warning, and error). For each type of messages, you can define whether the message bar appears and how long the messages are displayed.

#### Service Manager Calendar

Prior to version 9.34, HP Service Manager allowed you to set up a calendar through the Release Control integration. As of version 9.34, Service Manager additionally provides a calendar that is based on the Calendar widget. Service Manager Calendar can display time period records and their associated business records in a graphic and intuitive user interface. Users can use the Service Manager Calendar to optimize their task planning. For example, they can easily check how their



activities will be affected in a specific time range, or check which business records (changes, incidents, interactions, and so on) are scheduled for or associated with a specific time range.

Service Manager Calendar also allows high-level tailoring through a set of configurations. For time period records and associated records, you can set color preferences, maximum number of records to display, field mappings, filters, and so on.

## **Application Changes**

### **Case exchange framework**

HP Service Manager Case Exchange is a solution to exchange data between two Service Manager systems or between Service Manager and another product. The Case Exchange framework mainly facilitates the following operations:

- Sending and receiving data
- Viewing and processing the exchanged data in the native environment

The Case Exchange framework enhances the existing Service Manager Integration Suite (SMIS), which provides an interface to enable the Case Exchange solution. With the core features of the Case Exchange framework, you can set up the Case Exchange integration with an easy and flexible approach.

### **Time period management**

A time period is defined as a set of settings that defines a type of time window based on a set of recurrence rules. The definition includes the category, current phase (based on a pre-configured workflow), approval status, scope, assignment group, owner, affected services, affected departments, and affected locations of the time period.

With Time Period Management, you can perform tasks like defining Local, Regional, or Global time periods that apply to a set of locations in your organization or defining the scope of each time period to indicate whether it will cause performance degradation or service outage to end users.

If integrated with another module in HP Service Manager, Time Period Management enables you to directly view time periods from that module. For example, if integrated with Change Management, time period definitions will enable users to view time periods and changes in a Calendar widget and view time periods and changes in the context of a selected change. This is helpful for change planning.

### **Delta migration tool**

There are times when you need to migrate data from one Service Manager server to another. For example, you might make a copy of the original system that is running live, and then make changes to the workflow in your copy. In this case, you might want to replace the original live system with the copy that has the new workflow.

As of version 9.34, Service Manager provides a delta migration tool to transfer the “delta data” from one Service Manager system (original system) to another (new system). The delta migration tool enables you to keep the original system and the copy in sync in either of the following ways:

- Allowing manual export or import of changed records
- Scheduling an automated export or import

### **Text import wizard enhancements**

The Text Import Wizard is enhanced to better support importing data in CSV (Comma Separated Values) format into Service Manager. For example, the wizard can now import master data (such as Roles, Categories) and business data (such as Contacts, Departments, Assignment Groups, Service Catalog Items, and Configuration Items).

Key enhancements to the Text Import Wizard are as follows:

- Support of mapping between columns in the source file and fields in the Service Manager record
- Support of complex data structure
- Support of data manipulation

### **Survey integration enhancement**

HP Service Manager introduces a new API-based survey connector that enables you to integrate Service Manager with the third-party Medallia survey tool.

Out-of-box deployments of Service Manager 9.34 include the following types of survey connector:

- An API-based connector that uploads data directly to the Market Tools survey solution
- An API-based connector that uploads data directly to the Medallia survey solution
- A URL-based connector that allows a URL that points to the survey to be emailed to survey recipients

### **Requesting non-cart/support items from the ESS portal**

Prior to Service Manager 9.34, Support type categories and items were accessible through Service Request Catalog (SRC), but not through the Employee Self-Service (ESS) portal.

Service Manager 9.34 provides a new option, Non-cart Catalog Requests, which allows ESS users to submit requests for non-cart (including Support type) items.

## **Service Manager Version 9.33**

Service Manager 9.33 is a relatively small release, focusing mainly on stability and minor usability features. Nonetheless, SM 9.33 includes a small number of highly useful enhancements as described in the following sections.

### **Server RTE Changes**

#### **Case-insensitive Oracle solution**

The Service Manager 9.33 release provides a solution that resolves the performance issue when customers use an Oracle case-insensitive database. This solution executes all statements within Service Manager using UPPER clauses in WHERE condition, GROUP BY clauses and ORDER BY clauses. It enables you to get the faster Oracle performance (case-sensitive) with the advantages of case-insensitive searches, and therefore eliminates the need to use case-insensitive Oracle which can slow down system performance.

#### **New JavaScript logger**

This release introduces a new JavaScript logging function. The logger object is created by calling a new method (getLog()) that is added to the Service Manager RTE.

The new JavaScript logger provides different log levels for messages. Users can now configure the log level for different logger objects in the ScriptLibrary module.

#### **Version control for tailoring**

As of version 9.33, HP Service Manager can integrate with Apache Subversion (SVN) to provide a version control solution for your customized applications.

Before you can tailor the Service Manager applications by using SVN, a system administrator must export the application records from Service Manager to XML files and store them on an SVN server as a shared repository. By using an SVN client, you can check out the latest version of the data files from the SVN repository and then import those files to your own development database in your development environment. When you modify the application code in your development environment, your modifications are automatically synchronized to your local XML files. You can then commit your code changes back to the SVN repository. In this way, SVN retains a clear history of any changes made to a specific application.

### **Client Changes**

#### **Attachment handling**

Service Manager 9.33 includes enhancements to the attachment handling functionality.

You can now attach multiple files to records concurrently and download multiple attachments from records concurrently. In the event that a file fails to be uploaded, an error message is displayed below the file name, and the remaining files are uploaded as expected.

Additionally, Service Manager 9.33 includes the following improvements to the attachment handling UI:

- A progress bar is displayed during the file upload process.
- The "Attachment" section displays when a file was attached and the login name of the user who attached the file. To accommodate this information, the width of the attachments grid is widened. Therefore, you may need to redesign the form if you do not want a horizontal scroll bar to appear.
- An attachment count is added to the header of the "Attachment" section. This enables you to determine whether files are attached to a record without expanding the "Attachments" section.

- Checkboxes are added beside file names in the attachment grid, to enable the multiple file download and removal functionality.

### **Service Request Catalog Enhancements**

Service Request Catalog introduces the following new features and enhancements:

#### *Knowledge article feedback*

You can now add feedback to a knowledge article from within Service Request Catalog. This feedback is reflected in the Service Manager Knowledge Management process.

#### *Knowledge article usage*

Service Request Catalog now stores the KM search history and KM usage history in Service Manager.

#### *Login names are stored*

Service Request Catalog now stores your account name in the login page. When you click the user name field in the login page, the dropdown list displays the users who have previously logged in to the system.

You can also opt to clear the user name list from the login page.

#### *Additional contact information*

You can now see additional contact information, such as the first name, last name, and email address of the contact. You can configure the additional contact information by modifying the `applicationContext.properties` file.

#### *Comments on service requests*

You can now post comments on open, pending, or denied service requests by clicking Comment & History button.

#### *Google Chrome support*

Service Request Catalog now supports Google Chrome.

#### *Tablet support*

Service Request Catalog now supports tablet devices, such as Apple iPad and Google Android tablets.

#### *Additional Information on encryption algorithm*

The encryption tool used during the installation of Service Catalog was modified slightly to provide better explanations of the encryption process and also better documentation of the available encryption algorithms.

#### *Support for the Service Manager software load balancer*

Service Request Catalog now supports the Service Manager software load balancer.

## **Service Manager Version 9.32**

The major theme of Service Manager 9.32 is to provide continued enhancements and features. It increases flexibility, provides enhanced access methods, and new mobility client on the HP Anywhere platform, among numerous other enhancements.

### **Server RTE changes**

#### **RESTful API Framework**

Service Manager 9.32 now supports a RESTful API framework, which supports lightweight queries and operations on Service Manager data through a single Uniform Resource Identifier (URI). The RESTful API framework is easier to use than the Service Manager traditional SOAP API.

The following query functions are provided in this RESTful API framework:

- Basic queries for elements/collections
- Service Manager native query language
- Sort and pagination in queries
- Three query views: Summary, Condense, and Expand

By using the RESTful API Framework, you can also create an application that can perform actions, including intrinsic operations such as CRUD (Create, Read, Update and Delete) and extrinsic operations such as SM specific actions (such as Close, and Resolve), on Service Manager objects.

**Note:** The existing SOAP-based web services available in previous version are still available in Service Manager 9.32.

## Support of F5 Hardware Load Balancers

Service Manager 9.32 provides the ability to replace the Service Manager software load balancer with an F5 hardware load balancer (F5 LB).

**Note:** In this section, a web server refers to Apache or IIS, a web application server refers to Tomcat, WebSphere, JBoss, or WebLogic, and an SM application server refers to a server hosting the SM RTE, which is comprised primarily of SM servlets.

### *Newly Supported Scenario*

The following item describes this newly supported scenario:

- Web server (s) + Web application servers <-> F5 LB <-> SM application servers

**Note:** Support for this scenario is limited to devices from F5.

### *Previously Supported Scenarios*

Prior to the 9.32 release, there were a number of supported scenarios where hardware load balancers (HWLB), such as F5, could be used with Service Manager:

- Browsers <-> F5 LB <-> Web server(s) + Web application servers
- Browsers <-> F5 LB <-> Web application servers (not recommended if requires TSO/SSO)
- Web Services clients <-> F5 LB <-> SM application servers

**Note:** These three scenarios are still supported with the 9.32 release and are unchanged.

**Note:** For instructions on configuring hardware load balancing between browsers and web servers/web application servers, see the specific hardware load balancer documentation and web server/web application server documentation.

## Performance Improvements

### Cross-Table Join Query Improvements

The performance when running a join across database tables has been vastly improved as compared to previous releases of Service Manager prior to version 9.32. Previously, a query running across two tables was performed in memory by Service Manager. For data sets that contain millions of record, this process could be extremely time consuming. Now, the RDBMS handles the initial join operation and returns a subset of results to Service Manager.

### *Improved Performance*

Customers may have several million tickets and in addition high volumes of master data, for example, contacts (>350,000), departments (>50,000), locations (>10,000), and subscriptions (>500,000). Usually inboxes should display data from several tables, where the inbox query runs against several queries. Being able to do cross-table queries in SM makes the tool unrecognizably faster because so many things require one iteration, and it allows a much more normalized database design.

### *Reduced Maintenance Effort*

The cross-table queries are required to avoid duplication of data within Service Manager. Having this functionality now makes duplication of data unnecessary; this in the end reduces the maintenance effort, because data modifications (for example, in master data) are easier to perform.

### *Simplification*

Running a direct SQL cross-table query provides a simple way of returning a list of ticket numbers that meet complex cross-table where clauses. It can also help to exactly align (remove doubt) for certain SQL queries across systems (SM, reporting, sql connections and extracts directly from the database) for a single version of the truth.

## Support of Primary Keys and Not Null Constraints

Prior to version 9.32, Service Manager did not support primary keys or Not Null constraints in the tables contained within the RDBMS. While the Service Manager logical representations did include support for unique keys with an Not Null constraint, this support was managed entirely within Service Manager and not in the RDBMS. Because of this lack of functionality, SQL queries generated by Service Manager added an Is Null condition in the WHERE clause. This mechanism resulted in poor performance when considering the speed advantages of leveraging the inherent integrity of the database.

## IPv4/IPv6 Dual Network Support

As of version 9.32, Service Manager supports IPv4/IPv6 as a dual stack network. This addresses the needs of being able to run Service Manager infrastructure in an organization where both IPv4 and IPv6 are enabled in parallel.

Most Service Manager components support IPv6 from Service Manager 9.32, except for the following legacy features which still support only IPv4:

- HP Service Manager Open Database Connectivity (ODBC) Driver
- HP ServiceCenter Automate (SCAuto) Software Development Kit (SDK)

## Common Access Card (CAC) Sign-On

As of version 9.32, the Service Manager web client supports Common Access Card (CAC) sign-on. CAC sign-on enables users to log in to the web client directly with a smart card that stores a valid user certificate. Users only need to enter a card PIN, instead of a user name and password.

During CAC sign-on, Service Manager web tier gets access to the user authentication public certificate and its counterpart private key through the underlying client crypto architecture. In other words, Service Manager does not directly communicate with the card reader. Technically, Service Manager supports any smart cards that store an X.509 user authentication certificate and are designed to work with smart card middleware (such as ActivClient) that is installed on the user's computer.

## FIPS 140-2 Compliance

As of version 9.32, Service Manager is FIPS 140-2 (level 1) compliant. FIPS (Federal Information Processing Standards) are a set of standards that describe document processing, encryption algorithms and other information technology standards. The FIPS 140-2 standard, "Security Requirements for Cryptographic Modules," specifies the security requirements for cryptographic modules utilized within a security system that protects sensitive or valuable data.

## New JavaScript Methods/Functions, RAD Functions, and System Parameters

Service Manager 9.32 includes the following new or updated items. Unless otherwise noted, they have been added or updated in Service Manager 9.32.

### *JavaScript Method*

JavaScript method	Description
SCFile.setBinary()	This method saves binary data to a field in a Service Manager file object. <b>Note:</b> Introduced since SM9.31 patch 1.

### *JavaScript Function*

The following JavaScript function was introduced in this release.

JavaScript function	Description
skipApproval	A JavaScript function that allows you to prevent an item's approval status from being reset to "pending."
removeTemplate restoreTemplate	A JavaScript function that removes / restores the relationship between operator records and their associated template. <b>Note:</b> These functions are not documented in the Programming Guide. See "New JS Functions to Remove or Restore Templates for Operator Records" on page 22 instead.

## New JS Functions to Remove or Restore Templates for Operator Records

If an operator record uses a template, some fields of the operator record do not store the values in the operator record itself. Instead, these values are stored in the template operator record. When a query is made to an operator record using such fields, Service Manager needs to query all the records and merge the data in the server. The performance associated with this operation can be slow. For more information about this issue, refer to defect QCCR1E91526.

To avoid this performance issue, this release introduces two new JS functions. These functions can check for the existence of these types of operator records, and then populate the relevant values from the template operator into the related operator records, or vice versa.

These two new JS functions are added to the out-of-the-box JavaScript library in package BaseUtilities:

- `lib.TemplateUtil.removeTemplate ()`  
This JS function removes the relationship between records and their associated template.
- `lib.TemplateUtil.restoreTemplate ()`  
This JS function restores the relationship that has been removed by the `lib.TemplateUtil.removeTemplate ()` function.

To support these new JS functions, two new underlying rtecall functions `templatremove` and `templatrestore` are also added.

## New RAD Functions

RAD function	Description
<code>datecmp</code>	A RAD function that translates the date/time fields to the correct SQL statement dialect. You can use this function in expert search of incidents, as well as in JavaScript programming. <b>Note:</b> Introduced since SM9.31 patch 1.
<code>filequeryex</code>	A RAD function that returns the query parameters of a file variable.
<code>isExpressionValid</code>	A RAD function that determines if a RAD expression is a valid expression of a specified data type.
<code>rtecall("getprimary")</code>	A RAD function that returns an array containing the primary key values for a current record. The keys can later be used to retrieve the record using the <code>rtecall("getrecord")</code> function. This function can only be used against tables that have a primary key. Otherwise, error code 2 is returned.
<code>rtecall("getunique")</code>	A RAD function that returns an array containing the Unique key values for a current record. The keys can later be used to retrieve the record using the <code>rtecall("getrecord")</code> function.
<code>sysinfo.get("PKMode")</code>	A RAD function that returns the primary key mode for the system.
<code>updatestatus</code>	A RAD function that returns the result of the last update operation on a Service Manager file.

## System Parameters

The following table lists, in alphabetical order, parameters that have been added or updated in the SM9.32 release:

Parameter	State	Description
<code>agstackl</code>	Updated	This parameter defines the length of the stack the HP Service Manager server allocates to run RAD applications. <b>Note:</b> The default has been changed from 400 to 600.
<code>CAClogin</code>	New	Enabling this parameter causes the Web client to present a Common Access Card (CAC) certificate as authentication information and use SSL connections to the Web tier. Default: false (Disable)
<code>cacsignon</code>	New	This parameter defines whether trusted clients can log on to the Service Manager server with a Common Access Card (CAC), without entering log-on information. When this parameter is enabled, Service Manager allows trusted clients to bypass the Service Manager log-on screen and directly log in with a valid certificate stored in a CAC. Default: 0 (Disable)
<code>changeencrkey</code>	New	This parameter defines the encryption key for encrypting fields in the database. The value of this parameter must be either 8 characters (64 bits) long in non-FIPS mode or 32 characters (256 bits) long in FIPS mode, and consist of alphanumeric characters. <b>Note:</b> The parameter has been updated to support encryption keys that are either 8 (default) and 32 characters long.
<code>debugrest</code>	New	This parameter enables the HP Service Manager server to write detailed log trace for RESTful web services diagnostics.

Parameter	State	Description
		Default: 0 (Disable)
dao_sessiontimeout	New	This parameter specifies the seconds the Service Manager server to wait before terminating RESTful threads. Unless the client sends subsequent requests within the timeout, the Service Manager server will recycle the session for re-use and re-allocate it on demand. Default: 0 (Disable)
dao_threadsperprocess	Updated	This parameter specifies the maximum number of threads allowed to run concurrently in the process for a RESTful Web Service application. <b>Note:</b> The default has been changed from 5 to 10.
disableloginautocomplete	Updated	This parameter allows administrators to enable password auto-complete for the SM web client login page. <b>Note:</b> The default has been changed from false to true.
disableJumpAddress	New	This parameter controls if the Quick Jump component displays in a record detail form (for example, the Change Detail form). The Quick Jump component enables you to navigate to a group section quickly. Default: false (Enable the Quick Jump component)
enableExitConfirmMessage	New	If this parameter is enabled (set to "true"), when the user clicks the Close ("x") button of the SM web client page or manually refreshes the entire web client page, a confirmation message displays that indicates the user might have unsaved data and asks the user to confirm whether to stay on the current page or leave the page. Default: false (Disable)
encryptionkey	Updated	This parameter defines the encryption key for encrypting fields in the database. The value of this parameter must be either 8 characters (64 bits) long in non-FIPS mode or 32 characters (256 bits) long in FIPS mode, and consist of alphanumeric characters. <b>Note:</b> The parameter has been updated to support encryption keys that are either 8 (default) and 32 characters long.
enableListFrameStateRetainNew		This parameter enables the list detail page to retain the expand-collapse state of the List Pane when the list detail page refreshes. If you set this parameter to false, the List Pane is always in expanded state once the list detail page refreshes. Default: false (Disable)
external_lb	New	Must be set to "1" in the sm.ini file when the Service Manager server uses an external hardware load balancer (default:0). Default: 0 (Disable)
externalLB	New	Must be set to "1" in the web tier's web.xml file when the Service Manager server uses an external hardware load balancer (default: false) Default: 0 (Disable)
fipsmode	New	This parameter determines if the Service Manager server runs in FIPS 140-2 compliant mode ("FIPS mode"). Default: 0 (Disable)
ir_sql_limit	Updated	This parameter determines the maximum number of records to be fetched from the RDBMS in a combined IR and SQL query. <b>Note:</b> In this release, support of value "0" has been added: ir_sql_limit:0 means there is no limit.
JCEProviderClassName	New	This parameter specifies the class name of a FIPS-certified third-party Java Cryptography Extension (JCE) provider (for example, RSA BSAFE) that you plug in when configuring FIPS mode in the web client. Default: None
JCEProviderName	New	This parameter specifies the name of a FIPS-certified third-party Java Cryptography Extension (JCE) provider (for example, RSA BSAFE) that you plug in when configuring FIPS mode in the web client. Default: None
primary_key_mode	New	This parameter specifies whether Service Manager is in primary key mode or not. Default: 0 (Disable)
showNavIcon	New	If this parameter is set to true, each System Navigator menu item will display an icon that indicates the type of menu item. If the parameter is set to false or not present, the navigator menu items do not display icons. Default: false
system_addconstraint	New	This parameter can only be used from an OS command line. It adds a Not Null constraint to the first unique key or converts the unique key to a primary key for the specified database tables,

Parameter	State	Description
		depending on usage. Default: 0 (By default, this parameter adds only a "Not Null" constraint on the first unique key on all files in the system.)
tracememerror	New	This parameter specifies whether to print memory trace information in the sm.log file and generate coredump when the memory is handled incorrectly. Default: 0 (Disable)
upgradeencralg	New	This parameter upgrades the database encryption algorithm from DES to AES by updating all encrypted fields with a new 256-bit key. Default: xxxxxxxxxxxxxxxxxxxxxxxxx
usedmemcomprmode	New	This parameter determines the method for calculating memory usage. Default: 0 (Specifies that used memory will be the sum of committed memory plus the reserved memory)

The following table lists, in alphabetical order, parameters that have been added or updated in SM9.31 patch releases:

Parameter	Description
acceptsharedcert	<b>Note:</b> Introduced since SM9.31 patch 2. This parameter defines how the HP Service Manager server handles signed SSL certificates from incoming client requests in a Trusted Sign-On configuration. When the parameter is enabled (acceptsharedcert:1), the Service Manager server allows Trusted Sign-On connections using a so-called "shared certificate." Default: 0 (Disable)
emailout	<b>Note:</b> Updated since SM9.31 patch 2. Prior to SM9.32p2, there are N+1 "EMAILOUT" threads in System Status and the logged-in users are counted as N+1; as of SM9.32p2, there is only one "EMAILOUT" thread and the logged-in users are counted as 1. Default: None
KMSearchEngineTimeout	<b>Note:</b> Introduced since SM9.31 patch 2. This parameter defines a timeout value in seconds for all Knowledge Management search server hosts (including indexing hosts, search hosts, and load balancer hosts). This parameter is used to prevent overloaded KM search servers from causing Service Manager to hang. Default: 20 (seconds)
maxloginspercluster	<b>Note:</b> Introduced since SM9.31 patch 2. In a horizontal scaling implementation, Max Logins for operators is enforced at the cluster level. This parameter allows administrators to turn off this feature. Default: 1 (Enable)
onewayssl4ws	<b>Note:</b> Introduced since SM9.31 patch 2. This parameter provides the option to use one-way/anonymous SSL for web services clients in a Trusted Sign-On (TSO) or Common Access Card (CAC) configuration. When enabled, this parameter allows web services clients to access SM SOAP interfaces without a certificate. Default: 0 (Disable)

## Client Changes

### Mobility Client

The Service Manager 9.32 Mobility client (also referred to as the "Mobile Applications client" in the Service Manager documentation) offers the following features:

#### *Broad Smartphone Support*

The Mobility client adds support for iOS, Android, and BlackBerry mobile operating systems, with a modern flat-style UI.

#### *Additional Language Support*

Unlike previous versions, the SM9.32 Mobility client supports all languages that the Service Manager (SM) server supports, except for two right-to-left display languages, Arabic and Hebrew. The Mobility client directly retrieves the list of login languages from the SM server, without the need to configure supported languages.



### *Increased Load Capacity*

The maximum allowed number of concurrent users has been increased significantly. The Mobility client now supports up to 1000 concurrent users.

### *Support of More Approval Types*

The SM9.32 Mobility client supports approvals of the Service Desk and Change Management modules:

- A Service Desk Agent can approve or deny an interaction request submitted from Service Desk.
- A Service Request Catalog Approver can approve or deny an interaction request submitted from Service Catalog.
- A Change Approver can approve, deny or retract a Change request.

### *Robust Tailoring Capability*

Tailoring is not possible in the SM9.30 or SM9.31 Mobility client. The SM9.32 Mobility client provides the following tailoring options:

- Add, rearrange, or remove fields on an out-of-the-box (OOB) Mobile Applications form
- Add existing or custom Service Manager views to the Mobility client user interface (UI)
- Create Mobile Applications forms for added views
- Customize action bar options in the Mobility client UI
- Configure a prefix for a record type that is used for quick search

In addition, the Mobile Applications now supports 15 form controls.

### *Quick Search*

The SM9.32 Mobility client adds a quick search functionality. Users now can immediately locate a record by entering its record ID (including the ID prefix) in a search box.

### *Support of SSL, TSO, and LW-SSO*

Support SSL (Secure Sockets Layer) to protect communications between Mobile Applications and the Service Manager server.

### *Support Trusted Sign-On (TSO) and Lightweight Single Sign-On (LW-SSO):*

- By enabling LWSSO, SM is able to authenticate a user with credentials retrieved from another LW-SSO-enabled product without the need to enter a username and password manually.
- By enabling TSO, similar to LW-SSO, users can access the Mobility client with valid credentials directly. For example, users can log in to an enterprise portal first, and the portal will pass the authentication information to SM for TSO.

### *IPv6 Support and Federal Information Processing Standards (FIPS) Compliance*

The Mobility client now offers IPv6 support and is FIPS 140-2 compliant.

## **Service Request Catalog (SRC)**

SRC 9.32 provides the following new features.

### *Rebranding*

SRC is now re-branded to match the version of Service Manager with which SRC is released. The previous release of SRC was numbered version 1.40, and was released together with Service Manager 9.31. This release is now numbered the same as the Service Manager version with which it is released, 9.32.

### *Recurring Costs*

Recurring Costs are now clearly identified in the costs area when you select an item. The cost area displays the base cost and then lists any recurring costs for each time period (for example, +10 USD/month). In addition, recurring costs for an item can now be highlighted by a price tag icon in the Pending Approvals window of your Request Inbox. Whether this icon appears is configurable by the system administrator.

### *Dynamic user options*

Administrators can now configure items in the Service Catalog in Service Manager to present options and fields dynamically to users. This feature can be used to gather additional information from end users that is specific to their request and can also reduce the size of the Service Catalog by allowing items to be configured dynamically (therefore, administrators do not need to specify multiple variants of the same item). As such, end users may see additional fields or options appear as they make their requests.

### *User Interface Customization*

In this version, Service Request Catalog extends its customizability features by allowing administrators to tailor virtually every label in Service Request Catalog. In addition, administrators can customize the default SRC checkout panels. Together, these additions provide almost limitless combinations for administrators to design the SRC UI.

### *Additional Language Support*

This version of Service Request Catalog adds Hebrew to the list of translated languages in which SRC is deployed. In addition, Right-to-Left support was fixed so that Right-to-Left languages like Hebrew and Arabic behave as expected. Also, because of the extended customizability of the user interface, it is now possible for an organization to completely translate all strings in the SRC UI, which effectively enables an organization to self-translate SRC to whatever languages they wish.

### *Enhanced Look-up Fields*

In this release of Service Request Catalog, when you make a request and select a value from a look-up field, you can select the data from a multi-column list (a QBE list in Service Manager) that displays all information for that record. In earlier versions of Service Request Catalog, not all of this data was presented. For example, a look-up for a contact name would show only the first and last names that matched your search. However, this was problematic in large organizations, where two individuals could share the same name, or the organizations business practice required you to identify the user by a unique identifier, such as employee ID. Now, you can see all information in a table, displaying the users first and last name, their department and employee ID, or whatever else the administrator has configured for that record. Note that, after you select a record, all record information is included in the request, even though only part of it may be shown in the SRC UI.

### *Upgrade Tool*

This release of Service Request Catalog introduces a new upgrade tool. The Upgrade Tool allows you to automatically migrate your customizations from your deployed SRC 1.4 .war to SRC 9.32.

### *Support for IPv6, Common Access Cards (CAC), and Federal Information Processing Standards (FIPS)*

Together with Service Manager 9.32, Service Request Catalog offers support for IPv6, Common Access Cards (CAC), and Federal Information Processing Standards (FIPS). For more information on these features, see the Service Manager documentation in addition to the Service Request Catalog documentation.

## **Updated Web Tier Directory Structure**

In Service Manager 9.32, the directory structure of the Web tier has been modified such that the SM build number is included in the URL. These changes were implemented because occasionally, upon web tier upgrade, resources cached in the user's browser would be incompatible with those in the new web client. When such incompatibility exists, asking all end users to clear their browser cache is not practical. With this revised implementation, users will no longer need to clear their browser cache.

**Note:** In SM 9.32, MySM does not use the new versioning URL syntax. If any changes are made to MySM via a future patch or hotfix, MySM users need to clear their cache when the web tier is upgraded with that fix. For SM 9.32, there is no change to MySM when compared to 9.30 or 9.31 or any of the associated patches. This issue is fixed in SM 9.33.

Additionally, the default cache time (maximum age value in the application-context.xml file) is changed from 8 hours (28800 seconds) to 6 months (15552000 seconds) to better utilize browser cache.

## **Usability Improvements**

Service Manager 9.32 includes the following usability improvements. Most of the features are only available in the web client.

### *Single-Click on Navigator (Web Client Only)*

You can now single-click nodes in the System Navigator, instead of double-clicking. The feature behaves in the following manner:

1. If you single-click or double-click on the folder, the entries below the clicked node expand or collapse.  
**Note:** This is the same behavior that occurs when you click the arrow.
2. If you single- or double-click on an individual menu item, or a node that represents a view, the detail is displayed on the right panel.  
**Note:** There is no change in behavior under "Manage Favorites".

### *Hover Window Indicator (Web Client Only)*

When viewing the details of a record, a gray info icon has been added to the Comfill component to indicate the field can display additional information in a hover window.

### *Close Button on Inactive Tabs (Web Client Only)*

A Close button now displays on both active and inactive tabs. You can directly close an inactive tab by clicking the Close button if the Close operation does not return a confirmation message. If the Close operation returns a confirmation message, the tab becomes active.

**Note:** The Close button never displays on the first tab.

### *Quick Ticket Search Using the Search Line (Web Client Only)*

A Quick Ticket Search feature has been added to the toolbar section of the Service Manager graphic user interface. When enabled, this feature works as follows:

- For users who have access to the Service Manager command line, a new icon is displayed, which toggles between standard command line behavior and the new Quick Ticket Search feature.
- For users who have no command line access, a search line box is available.

This feature enables users to enter a record ID in the search line field, which opens the record directly when executed.

By default, this feature is disabled. To enable it, you, as a system administrator, must select the **Enable Universal Search** option in the System Information Record.

#### **Notes:**

- This feature is available only in the standard index.do web client.
- Out of the box, the search line only supports searches by record ID (with ID prefix) for the following record types: SD (interactions), C (change), IM (incidents), and CI (configuration items). You can enable more record types for quick search. To configure a record type for quick search, you, as an administrator should add the record type and prefix in global list: 'UniSearch Types' and start the lister process in System Status; if no prefix matches the input query string, SM will search for the configuration item (in the device table) with that ID number.
- To enable a record type for quick search, the profile for the record type should have a field with type of "tableaccess" and the view access must be set to true; if no view access is defined, records of this type will not be available for quick search.
- This feature requires both your Applications and web client to upgrade to version 9.32; if you only upgrade the web client, the command line behavior will remain the same as before.

### *Quick Jump in Record Detail Forms (Web Client Only)*

End users can now use a drop-down list, next to the **More** button, to quickly jump to the desired section of a record's detail format. This feature allows quick access to important sections of the record, which prevents tedious mouse scrolling. The drop-down list includes the names of all visible groups designed within the Group and Notebook controls if the following control properties are set:

- Group control: "Collapse enabled" and "Floating group enabled" are set as "true".
- Notebook control: "Group rendering enabled" is set as "true"; or in Process Designer, "Preferred notebook style" is set as "Groups".

Users can use the ALT+J keyboard shortcut to move the focus to the drop-down list, and to expand or collapse the drop-down list.

#### *List State Persistence (Web Client Only)*

The list-detail page of a record can now retain the expand-collapse state of the List Pane in each tab within the user's current session. When the list is collapsed it allows a larger portion of the record's detail to be displayed, which prevents tedious and unnecessary mouse scrolling.

You can enable or disable this behavior by configuring the enableListFrameStateRetain parameter in the web.xml file.

**Note:** In the list detail page, you can now use the Alt+U keyboard shortcut to expand or collapse the List Pane. The key combination is configurable.

#### *Merge Conflicted Updates (Window and Web Clients)*

When there are concurrent updates from a user and background processes, the user can now merge the conflicted updates and save the merged result of a record without the need to abandon the current updates.

- If different fields in the record are updated simultaneously, the system merges the updated fields automatically when the user tries to save the updates.
- If the same fields in the record are updated concurrently, the user is able to manually merge the conflicted updates when trying to save the updates.

Administrators can now disable the superfluous pop-up window for reloading the latest record when users starts to edit a record. An option **Disable the Pop-up Window to Reload Records** is available in the System Information Record. It is unchecked by default.

The Merge Conflicted Updates feature is out of the box for HP Service Manager 9.32 default user operations. However, to apply this feature to a record with customized operations, you need to first tailor your customized operations.

#### *New Keyboard Shortcuts (Web Client Only)*

This release of the web client supports the following new keyboard shortcuts:

- CTRL+ALT+T: Closes the current active tab.
- CTRL+ALT+H: Moves the focus to the header of the current active tab.

Only the header of an active tab can be focused. When the focus is on the header of an active tab, you can use Left/Right Arrows to switch to other tabs.

#### *Sending Notifications to Specified Operators (Web Client Only)*

You can now tailor Service Manager to notify specified operators by a pop-up notification in the Web client. For example, you can send notifications to specified operators when an Incident ticket is created or updated.

**Note:** In the Windows client, the notification does not pop up, but appears in the message log; in addition, the notification will not be sent to offline operators.

## **Application Changes**

### **HTML Email Solution**

The HTML Email solution, which was previously released as a stand-alone content pack on HP Live Network, has been merged into Service Manager 9.32. You can now directly configure and set up the solution from **Tailoring > Notifications**.

This solution is intended for system administrators who manage Service Manager notifications or email setup, and for engineers who send HTML emails to notify users. The solution provides an out-of-box set of email notification definitions and HTML templates that supports most common notification scenarios in three Service Manager applications: Service Desk, Change Management, and Incident Management.

You can use these notification definitions and HTML templates as a basis for customizing your notifications. You can also create your own notifications and templates for other Service Manager applications.

## Survey Integration Solution

The Survey Integration solution, which was previously released as a stand-alone content pack on HP Live Network, has been merged into Service Manager 9.32. You can now directly configure and set up the solution from Tailoring > Integration Manager.

The Survey Integration enables you to integrate your Service Manager installation with third-party survey solutions. The integration provides you with two integration methods: an API-based connector that uploads data directly to the survey solution (enabling you to manage the survey directly through Service Manager) and a URL-based connector that sends survey request emails containing a survey-specific URL to intended survey-takers.

## Service Manager Doctor (SM Doctor)

As of version 9.32, the Service Manager server provides an embedded troubleshooting tool, SM Doctor. You can find a folder named `smdoctor` directly under the server installation directory. This folder contains all files required for running this tool.

SM Doctor enables support engineers to collect configuration and diagnosis data from Service Manager. This tool eliminates the need of excessive exchanges of emails between support engineers and customers before engineers can have all needed information to analyze a reported incident.

This tool collects these types of information:

- SM server configurations and reports
- Operating system configurations
- Database configurations on the database server
- SM server logs
- List of files in the `<SM server>/RUN`, `<SM server>/RUN/lib/endorsed`, and `<SM server >/RUN/lib` folders.
- Additional configurable data collected by third-party tools, such as `supportTool.sh` and `generateSchema.sql`.

## Enhanced Inactivity Timer Mechanism

Service Manager 9.32 has enhanced the inactivity timer mechanism so that administrators can set up an inactivity timer for a specific operator; this enhancement also improves performance by eliminating the use of the `inactive.startup` background process.

**Note:** Before you can use the enhanced mechanism, be sure to restart the inactivity timer as described in the "Inactivity timer" help topic.

### *Backward Compatibility*

This release is also compatible with the old mechanism. If you use an applications version earlier than 9.32, Service Manager will use the old mechanism, even if you have upgraded to the SM 9.32 server and web client.

### *Operator Level Settings*

Administrators can now configure the inactivity timer settings for a specific operator, by specifying the **Warning Time** and **Allowed Inactive Time** fields on the Security tab of the operator record. Operator level settings take precedence over system level settings specified in the Start Inactivity Timer form.

### *Obsolescence of the inactive.startup Process*

This enhancement eliminates the need to use the `inactive.startup` background process. HP recommends that you delete this process to save your system resources.

### *Usability Improvements*

This enhancement also includes usability improvements described in the following table.

Improvement	Previous Behavior
Adding validation against the <code>idletime</code> and <code>warntime</code> fields on the inactivity timer setting form	In previous versions, this validation is not available.
Renaming the <b>Reset Inact</b> button to <b>Save</b> , which is now always displayed in the form	In previous versions, the <b>Reset Inact</b> button displays only when the inactivity timer is running.
Keeping the user staying with the inactivity timer settings page after the user clicks <b>Start</b> or <b>Save</b>	In previous versions, the page is closed immediately after the user clicks either button.

## Process Designer

The Service Manager Process Designer (PD) Content Pack(s) added the following features prior to the release of Service Manager 9.32.

### *Process Designer Content Pack 9.30.3:*

- Implements the Process Designer framework for the Help Desk modules (Service Desk, Incident Management, and Problem Management)
- Supports interaction between PD Help Desk modules and other modules, including PD Change Management, Request Management, PD Knowledge Management, and Service Level Management
- Supports phase-based Response SLO for Service Desk and Incident Management
- Adds Incident tasks to PD Help Desk and supports SLA for Incident tasks
- Applies Process Designer security mechanism to PD Help Desk modules, including:
  - New Process Designer security areas for PD Help Desk modules
  - New Process Designer security roles for PD Help Desk modules
  - Help Desk security profiles are migrated to PD security roles and rights
  - Access rights for the navigation menu and for the Inbox are replaced by Process Designer security roles and rights
- Adds the following usability improvements:
  - Related Records are simplified in PD Help Desk modules and in PD Change Management
  - Adds the ability to switch between the Group style and the Tab style for a Notebook control in the web client (available for PD Help Desk modules and for PD Change Management)
  - Adds the ticket number to the title of a record, including Interaction, Incident, Incident task, Problem, Problem task, Change, and Change task
  - Adds a real-time counter to the Attachments and Related Records sections
  - Enhances the ability to trace phase transition in the workflow figure
- Adds the following Process Designer framework enhancements:
  - Workflow-based Rule Sets replace file level format control
  - Workflow-based Actions can be re-used across phases
  - Workflow backend Transitions enable cross-module interaction
  - A new tool exports Workflows into an unload file, so that you can copy Workflows from one PD-based system to another PD-based system
  - Phase orders specify the sequences for Response SLO calculation

### *Process Designer Content Pack 9.30.2:*

- Support of applying change model to existing change records. In addition, you can configure whether or not this “Apply Change Model” option is available for a specific workflow phase.
- Task planner (was called “task editor” before this release) has been enhanced:
  - Support of adding conditions for task creation by using the Condition Editor embedded in the task planner in change model.
  - Support of planning mandatory tasks in the task planner in change model.
  - Task planner now is also available from change records for you to view or plan change tasks.
- The Service Catalog connector “Open a Change” is enhanced to support the use of change model to open a change record.
- Support of configurable filtering of change models by using script function.
- Support of configuring custom fields to be copied from a change model to a change record by using link file.
- You can now use Mass Cancel to cancel all the opened tasks for a change record.
- Security improvement: some mappings between the old profiles and the new Process Designer security rights are corrected

## Documentation Enhancements

The Service Manager online help has been extensively redesigned, to make it easier for end users to find tasks that are relevant to their roles in Service Manager. This has been done in accordance with the *Service Manager Processes and Best Practice Guide*, which describes how Service Manager aligns to ITIL processes. Enhancements include:

- Pages for the primary user roles, inclusive of links to their various ITIL tasks. For example, a Problem Manager can find all the ITIL-related tasks that are applicable to his role under the *Problem Management > Problem Management user roles > Problem Manager* page.
- Graphs have been added to the ITIL tasks to show how the ITIL defined-processes are supposed to work, and show users how their particular tasks fit in.
- Administrative tasks for individual ITIL modules and processes have been separated. Module administrators who want to find out how to modify the background processes or configure a module in general can look here.

#### *Additional Changes*

- The Service Manager landing page was re-designed to make it cleaner and easier to navigate. Mini-landing pages were also created throughout the Help Center.
- A new “Navigate the Documentation” page was created, which details, in one location, every supplemental PDF manual.
- A new section for system administrators was created, and all system level-specific information, such as Application Setup and Database Administration, was placed under this section.
- A new “Guides and reference” section was created to house the troubleshooting sections and parameter information and guides. In addition, the following guides were converted from PDF-only versions, and placed in this section. The content of these guides is indexed and searchable from the Service Manager online help.
  - Tailoring Best Practices Guide
  - Programming Guide
  - Document Engine Guide
  - Web Services Guide (includes the documentation for the new REST API)
  - Wizards Guide

#### *New Feature Videos*

Finally, a number of New Features videos were created to better illustrate the improvements in Service Manager 9.32. We have created videos to highlight the following features:

- What's New Overview
- Survey Integration
- Process Designer Help Desk (Content Pack)
- Web Client Usability Enhancements (Parts I and II)
- Mobility
- Cross-Table Query
- SRC 9.32
- RESTful API

You can find these videos under the Service Manager section on the HP Live Network as well as on YouTube: <https://hpln.hp.com/>

### **Deprecations in SM 9.32**

#### *Deprecations in This Release*

As of this release, the following items are deprecated:

<b>Item Name</b>	<b>Type</b>	<b>Notes</b>
unmaskDeferMillisWeb parameter (in the web.xml file)		In previous releases, this parameter defers the unmasking of a browser window after an unmask request is issued. It relates to how much time the client browser needs to finish rendering after a page is loaded.
inactive.startup	Background process (in System Status)	In previous releases, you need to start this process to run the Inactivity Timer . As of this release, the Inactivity Timer no longer needs it.

#### *Future Deprecations*

<b>Item Name</b>	<b>Notes</b>
ServiceCenter	In a Service Manager 9.3x Windows/web client, the default starting page is a To Do Queue for the user logged in, which

Item Name	Notes
classic style starting page	is different from that in ServiceCenter 6.2. The new starting page is more intuitive, clean and simplified and thus has gained much better user experience. HP recommends that all customers leverage the new modern UI design, and stop using the ServiceCenter classic style starting page. The ServiceCenter classic style starting page will be deprecated in the future.

## Service Manager Version 9.31

The major theme of Service Manager 9.31 is to enhance quality and performance of Service Manager. This was achieved primarily through a combination of dedicated bug fixing initiatives and refactoring of parts of the underlying architecture. In addition, a number of new enhancements and features were added.

### Server RTE changes

#### Lock Management

In versions of Service Manager (SM) prior to version 9.31, the locking mechanism used multicasting to request and obtain a lock on a resource in Service Manager. This locking mechanism was implemented using a Peer Lock in the JGroups toolkit. However, there were several issues with this implementation, which are addressed with the new locking mechanism introduced in this release.

The new locking mechanism consists of a record entry for each locked resource in a database table. The new Lock table (for exclusive locks) and LockShared table (for shared locks) have been created to house these records.

#### Dynamic Debugging of User Sessions or Schedulers

**Note:** This feature does not work in non-English environments because of localization limitation.

Prior to version 9.31, Service Manager (SM) provided the ability to enable debugging information by restarting or re-connecting the SM Server to reload the modified sm.ini file, which contains the settings of debugging parameters. However, in some cases, support personnel need the ability to turn on the SM debugging dynamically without disconnecting/stopping a user session/scheduler. For example, a session/scheduler is having a performance problem after a continuous running for a long time, and no debugging was enabled and history indicated that once the session/scheduler was disconnected/stopped and then re-connected/restarted the performance issue went away.

Service Manager 9.31 introduced the dynamic debugging feature, which enables administrators to enable or disable debugging or tracing information for a user/scheduler session, without the need to restart the server. When enabled, relevant debugging information of that session/scheduler will be written to the server log (sm.log). Once you have finished troubleshooting, you can then disable some debugging information for that user session or scheduler, using dynamic debugging; however some debugging information cannot be disabled using dynamic debugging, and in this case the user needs to reconnect to the server or an administrator needs to manually stop and then restart the scheduler, to disable such debugging information.

**Important:** If multiple sessions exist for one user account or scheduler (for example, one user logs in simultaneously from different clients or multiple instances of one scheduler have been started), the dynamic debugging settings specified for one of these sessions will take effect for all of the sessions of this user account or scheduler.

#### Accessibility Improvements

This release includes the following accessibility improvements for the accessible Web client.

##### *Ability to Use HTML Headline Tags in the Label, Wrap Label, and Group Widgets*

Prior to version 9.31, the Web client does not use appropriate HTML headline tags (h1, h2, etc.) for HTML headers. This is problematic for screen readers used for accessibility.

To solve this issue, the following features have been introduced, which take effect only in the accessible mode (accessible.do and accessible-ess.do):

In Forms Designer, a new property **Heading Level** is available for three types of controls: Label, Wrap Label, and Group. Its valid values are: 1 through 6 (1 represents h1, and so on). The Heading Level property has no default value. Once a valid value is specified, when rendered to HTML, the text for these widgets will be enclosed in the corresponding paired headline tags.

The tab title of the current active tab is enclosed in the <h1> tag.



### Accessing the System Navigator Using Keyboard Shortcuts

Prior to Service Manager 9.31, the Tab key can move the focus around all fields on the screen, but the focus never reaches the System Navigator. There are no other keyboard shortcuts that can be used to access the navigator area.

As of Service Manager 9.31, users can use keyboard shortcuts to access the System Navigator. All elements in the navigator tree (buttons, tree panel, and tree nodes) are reachable by using **Tab** or **Shift + Tab** key commands in a default browser sequence.

**Note:** This enhancement works for all Web client modes: index.do, ess.do, accessible.do, and accessible\_ess.do.

### Limitations

When JAWS is running, only Internet Explorer is supported.

The keyboard shortcuts are not functioning when the focus is moved to the MySM content pane.

If you navigate to pages opened from **Manage Favorites**, you cannot return to the system navigator using ALT + Q.

### New Keyboard Shortcuts

The following table describes the supported shortcut keys.

Shortcut Key(s)	Description
Space	Expands or collapses the tree panel. Expands or collapses tree nodes that have children. <b>Note:</b> If JAWS is running with Virtual PC Cursor enabled (default), use " <b>Ctrl + Space</b> " instead.
Left/Right Arrow	The Left and Right keys expand or collapse tree nodes that have children. <b>Note:</b> If JAWS is running, this is not supported.
Ctrl + Alt + N	Moves the focus to the first toolbar button in the navigator.
Ctrl + Alt + M	Moves the focus to the first toolbar button in the main content pane.
Ctrl + Alt + L	If the current page is a list/detail page, moves the focus to the first toolbar button in the list pane.
Ctrl + Alt + D	If the current page is a list/detail page, moves the focus to the first toolbar button in the detail pane.
Alt + Q	Navigates through the following panes (not including the toolbar buttons) on the page: Navigator + main content Navigator + list pane + detail pane (if the active tab page is in the list/detail view) <b>Notes:</b> On triggering the Alt-Q keys, instead of focusing on the first element of each pane, the focus is remembered. Therefore, the remembered element is re-focused when the user returns to the panes. However, if the content of that pane is refreshed, the navigator will focus the first tree panel. Or, if it is the main content pane, the focus will target the frame window of that section. Pressing Tab once will cause the focus to target the first element in the browser's default sequence.

## New JavaScript Global Methods, JavaScript Functions, and Parameters

The following JavaScript global method was introduced in this release.

JavaScript Global Method	Description
setAppMessage	This function defines the message returned in the "message" attribute in a SOAP response. For details, see the <i>Service Manager 9.31 Programming Guide</i> .
uncompressFile	This function expands a compressed file into a specified location, using the following syntax: uncompressFile(file name, target directory); <b>Note:</b> If the target directory is not specified, the location of the compressed file is used. Example: uncompressFile("c:/test/upgtest.zip", "c:/test/test");

JavaScript Function	Description	
getBinary	A JavaScript function that returns the binary representation of a field. For details, see the <i>Service Manager 9.31 Programming Guide</i> .	
The following new parameters were introduced in this release. For more information, see the <i>System Configuration Parameters</i> section in the Service Manager 9.31 online help.		
Parameter	Description	Location
deadnodelocktimeout	The new locking mechanism implements the deadnodelocktimeout parameter. This parameter specifies the amount of time that must elapse before a process forcibly removes a lock from the Lock or LockShared table. <b>Default:</b> 10 (10 minutes must elapse before a record is forcibly removed.) <b>Possible Values:</b> No less than 10 minutes	Initialization file (sm.ini) <b>Note:</b> Does not require a restart of the Service Manager server.
fetchnotnullsystemp	This parameter specifies whether or not to fully enable the template merge functionality for tables that have a systemplate field (for example, the operator table). When this parameter is set to 1 (enabled) in the sm.ini file, records that have a non-NULL systemplate field merge the template record before they are passed to the query condition filter. As a result, records whose systemplate field is not empty will be included in query results. <b>Default:</b> 0 (Do not fully enable the template merge functionality). <b>Possible Values:</b> 0 (Do not fully enable the template merge functionality). 1 (Fully enable the template merge functionality).	Server's OS command prompt Initialization file (sm.ini) <b>Note:</b> Does not require a restart of the Service Manager server.
grouptimeout	This parameter allows you to configure the timeout value (in milliseconds) for Jgroups remote procedure calls. You can tune this value to keep the number of available nodes stable. It is recommended to set this parameter to a minimal value as long as it can keep the number of the available nodes stable. Meanwhile, the network latency between the web server and the HP Service Manager server should be small, otherwise the load balancer may forward a request to a node that is not able to handle the request due to network latency. <b>Default:</b> 1000 (milliseconds) <b>Possible Values:</b> Any number of milliseconds from 300 to 10000	Server's OS command prompt Initialization file (sm.ini) <b>Note:</b> Does not require a restart of the Service Manager server.
jsaccesscmdregex: <regex> jsaccessfilewriteregex:<regex> jsaccessfilereadregex:<regex>	These parameters specify access restrictions from JavaScript code for file access and command execution. This is required for security reasons so that users with Process Designer tailoring rights are not able to use the available Service Manager JavaScript APIs to directly access the underlying host file system and command line in an unauthorized way. These restrictions are described below: System administrator (sysadmin) users are allowed unrestricted access to the file system and command line Non-sysadmin users are allowed unrestricted access as well by default (none of these configuration parameters is present); if any of these parameters is present, access is restricted as follows. <b>jsaccessfilereadregex:&lt;regex&gt;:</b> A regular expression for the absolute paths of all files allowed to be read using the readfile(), and uncompressfile() JS functions	Server's OS command prompt Initialization file (sm.ini) <b>Note:</b> Changing any of these parameters requires a restart of the Service Manager server.

Parameter	Description	Location
	<p><b>jsaccessfilewriteregex:&lt;regex&gt;</b> A regular expression for the absolute paths of all files allowed to be written using the writeFile(), deleteFile(), makeDir(), uncompressFile() (output dir), and writeAttachmentToFile() JS functions.</p> <p><b>jsaccesscmdregex:&lt;regex&gt;</b> A regular expression for OS commands (including parameters) allowed to be executed using the sysExec() JS function.</p> <p><b>Notes:</b> The following strings are not allowed in the command line run by sysExec(): " ", " ", ";", "`" (backquotes), "&amp;&amp;", "&amp;", "&gt;&gt;", and "&gt;". If the use of any of these mechanisms in the command line is needed, administrators can put the real command line in a .sh or .bat file, and run the .sh/.bat file in sysExec() instead. Audit warning messages will be logged in sm.log, if SM found that any JavaScript attempted to access unauthorized file/paths or run unauthorized commands, or used those forbidden strings in the command line run by sysExec(). The messages include the file/paths to be accessed, or the commands to be run, and the user's login name.</p> <p><b>Default:</b> By default, none of these parameters is present, which means no JavaScript access restrictions for file access or command execution.</p>	
maxGroupCacheSize	<p>This parameter defines the maximum number of groups that can be cached in the user's browser when the user navigates through the groups in a record list.</p> <p><b>Default:</b> 300</p> <p><b>Possible Values:</b> No less than 300</p>	<p>Web tier configuration file (web.xml)</p> <p><b>Note:</b> Requires a restart of the Web application server.</p>
recordListArrayDisplayStyle	<p>This parameter defines how array fields are displayed in record lists (for example, To-Do queue lists, lists in the list pane of list/detail pages, and lists generated by clicking the Fill button), and it takes no effect on table objects (for example, tables in the detail pane of a list/detail page). The parameter can be set to one of the following values:</p> <p>1 (default): The original content length of each array column value is truncated to the value defined in the recordListArrayMaxChars parameter.</p> <p>2 (recommended): Array type columns are not displayed in record lists. This option is recommended because displaying array fields in record lists can have a negative impact on performance.</p> <p>3: Keep the original content length of each array column value in record lists. This is the old behavior when this parameter was not introduced.</p> <p><b>Note:</b> The setting of this parameter has no effect on the Export to Text File functionality. When you export a record list to a text file, array fields are always exported with their original content.</p> <p><b>Default:</b> 1</p> <p><b>Possible Values:</b> 1, 2, and 3</p>	<p>Web tier configuration file (web.xml)</p> <p><b>Note:</b> Requires a restart of the Web application server.</p>
recordListArrayMaxChars	<p>This parameter defines the maximum allowed field length of any array fields that appear in record lists. It takes effect only when the recordListArrayDisplayStyle parameter is set to "1".</p> <p><b>Default:</b> 100 (bytes)</p> <p><b>Possible Values:</b> No less than 1</p>	<p>Web tier configuration file (web.xml)</p> <p><b>Note:</b> Requires a restart of the Web application server.</p>

## Obsolete Parameters

Server parameter `releasesem` is obsolete in this release.

## Client Changes

### RecordList Improvements (Web Client only)

The RecordList functionality has been improved to achieve better performance and usability in the Web client. The performance has been significantly improved when users are working with record lists, and improvements have been made in the following areas: grouping, page navigation, drilldown, and keyboard/mouse operations. These improvements include:

On a list-only page (for example, a To-Do queue), the first visible column in each row is a drill-down link. Clicking this link opens the record.

On a list-only page, a single click on a row no longer opens the record, and it selects the row instead.

The focused row now has a black border and an orange or gray background (when selected or not selected), while selected rows have an orange background but without a border. This distinction is helpful when users perform keyboard operations, which take effect only on the focused row.

More keyboard shortcuts are supported.

New grouping behavior when a list-only page is reloaded (for example, when users refresh or resort the record list): if `viewrecordlist` is set to true, the group that contains the current row (that is, the last selected row) is expanded; if `viewrecordlist` is set to false, the first group in the list is expanded (the first row becomes the current row).

The controls on the paging bar now enable more efficient and convenient page navigation for record lists.

### HP Service Manager Collaboration (SM Collaboration)

By integrating with HP Enterprise Collaboration (EC), HP Service Manager Collaboration (SM Collaboration) enables SM and non-SM users to collaborate in real time (or anytime) in the context of an Incident, Service Desk Interaction, Change, or Change Task. Non-SM users can participate in the conversation using the EC stand-alone web interface or using Microsoft Office Communicator/Lync. SM Collaboration suggests participants to be invited to the conversation based on the context of a record, such as contact, configuration item (CI), service, or assignment group. You can also search users by email address or user name, and invite them to the conversation. The conversation is stored as a permanent part of the corresponding record.

### Mobility Client Enhancements

This release includes the following enhancements to the Service Manager Mobile Applications version 1.0:

#### *Localization support*

The Mobile Applications now supports four additional languages: French, German, Japanese, and Spanish.

**Note:** To support localization of messages returned from the Service Manager RTE, the 9.31 RTE is a prerequisite.

- Support of custom date formats for date/time fields in Change Management views.
- Ability to reassign Incident and Change records.

### Enhanced Web Client Session Management to Prevent Data Loss

Prior to version 9.31, if a user has already logged in to the Service Manager Web client and then opens a new Web client in the same session, the session may collide and unexpected behaviors will occur. For example, if a user logs into the web client in POWER mode, and then opens another page in ESS mode, the newly opened page will cause the original working page to automatically log out. This may result in front tier data loss depending on the application modes of the two pages.

As of version 9.31, Service Manager (SM) allows only one live web client in the same web browser session to avoid potential data loss.

### Service Request Catalog 1.40

Service Request Catalog 1.40 includes new features or enhancements in the following areas.

#### *Service Request Catalog End User Enhancements*

Service Request Catalog 1.4 includes a number of new features to expand the functionality of SRC and to provide a smooth and user friendly experience to end-users. For more information on how to use SRC from an end-user's perspective, consult the built in help server after installing SRC.

#### *Global Catalog Search*

This version of SRC enables extended search capabilities from the Service Catalog items, Support Catalog items, and Knowledge Management documents from Service Manager 9.31. Users can use search to quickly find items in the catalogs, knowledge bases, and also content from an outside URL. In addition, a shortcut has been added to allow users to a quick launch to request custom support options if they cannot find an applicable support item from the catalog. These search features greatly streamline service and support by enabling end users to resolve their issues independently.

#### *Service Subscriptions*

SRC now allows users to quickly view and manage their subscribed services through the introduction of a new Subscription page and Dashboard widget. Users can obtain a history of their subscribed items, or delete a subscription which they no longer need.

#### *Approvals*

SRC now supports Approvals and Approval delegation. Upon logging into SRC, users will see a new Approvals widget that displays the number of approvals in their queue. Users can view their current approvals and quickly approve or deny requests. In addition, users can designate an appropriate back-up Approver through the Settings window.

#### *Service Request Catalog Administration Enhancements*

Service Request Catalog 1.4 adds a number of new features that allow administrators to customize SRC to their organization's needs. The features include the creation of custom fields, more flexibility in customization, and new "Launcher" from which users can link to other Web sites or launch 3rd party support applications. For information on these features and how to customize SRC, see the "Service Request Catalog Customization Guide."

#### *Support for Creating Custom Fields*

Service Request Catalog 1.4 adds support for custom field in the panel of a request. These fields enable organizations to gather additional data beyond the standard SRC format. Such data might include customer specific information, such as location information, fax numbers, or similar. Custom fields are added from the Service Manager side.

#### *Customization of the SRC*

This version of SRC allows for greater control of the look and feel of the catalog. In this version, you can customize the visibility and arrangement of the widgets, brand the SRC by adding your organizations logo and modify the color scheme.

#### *Built-in Applications Launcher*

SRC also adds an area, called the Launcher, which allows you to add links to launch third party applications. Examples of third party links might include such things as a video for training, the launching of a chat support application, or link to a search Web site.

#### *Service Request Catalog for Tablets*

Following the release of SM 9.31, Service Request Catalog can be used on tablet devices that run the Android operating system. For more information on the tablet version of Service Request Catalog, see the content pack on HP Live Network.

### **Upgrade to LW-SSO v2.5 (Server and Web Tier)**

As of version 9.30p5, the Service Manager Web tier and server have upgraded to LW-SSO version 2.5.

In the Web tier's `lwssofmconf.xml` file, a new parameter, `secureHTTPCookie`, has been introduced. The default is "true". This parameter must be set in combination with the `secureLogin` parameter in the Web tier configuration file (`web.xml`) so that LW-SSO can work correctly:

If `secureHTTPCookie` is set to `true`, `secureLogin` must also be set to `true`;

If `secureHTTPCookie` is set to `false`, `secureLogin` can be set to `true` or `false` as needed (you are recommended to set both to `true` in a production environment).

## **Application Changes**

### **SM-BSM Downtime Synchronization**

The integration between Service Manager (SM) and BSM now supports synchronization of scheduled downtimes from SM RFCs and tasks to BSM in order to suppress events. For more information, see the *Integrations* section in the Service Manager 9.31 help.

## UCMDB Integration Enhancement

The UCMDB integration has been enhanced in the following areas.

### *Support of UCMDB 10.0*

The SM-UCMDB integration now supports UCMDB 10.0, in addition to UCMDB 9.x.

**Note:** The new features in this release are not supported for UCMDB versions earlier than 9.05.

### *Accessing the UCMDB Browser from the Service Manager UI*

Prior to Service Manager (SM) 9.31, users can launch the UCMDB UI in the context of a CI record synchronized from UCMDB. In SM 9.31, users can launch the UCMDB Browser UI instead of the UCMDB UI, in the context of a CI record.

The Universal CMDB Browser is a lightweight UI designed for simple access to UCMDB configuration information. This is a tool for searching, locating and consuming configuration related data. It is an optional add-on to UCMDB. For more information, refer to the UCMDB Browser documentation.

### *Limitations*

If the UCMDB server supports multi-tenancy, every user is associated to a tenant or tenants. No tenant-specific information is provided in the UCMDB Browser URL.

If the UCMDB server supports multi-customer, customer information is not provided in the UCMDB Browser URL. By default, users are logged in to the system of Customer 1.

### *Populating UCMDB with CI/CI Relationship Data from Service Manager*

This feature is helpful for synchronizing several types of CIs that cannot be automatically discovered in UCMDB and CIs that are created and managed in Service Manager.

### *Improved Error Handling for UCMDB to SM Synchronization*

The integration's error handling mechanism has been improved to ensure that a single CI failure does not cause a complete push to fail; instead the push job completes with a "Passed with failures" status. Full and differential pushes now run to completion without constant monitoring.

### *Performance Tuning for UCMDB to SM Synchronization*

This enhancement enables the Service Manager Adapter to connect to multiple Service Manager Instances for parallel processing of data push.

### *Additional DEM Rule Options for Duplicated Logical Name Values*

This feature enables push of CIs with a duplicated logical name in SM. You can configure DEM Rules on their Duplication Rule tab to either rename duplicated logical names or return an error:

- Rename to <name>\_RENAMED\_1/2/3
- Return Error

**Note:** The error message will contain this string: "This record contains an invalid duplicate key."

### *Automatically Loading Managed Fields in DEM Rules*

A new button named **Load Fields** is now available on the Managed Fields tab of DEM Rules. This button enables you to load managed fields automatically.

### *Support for Enabling Outage Spreading*

This feature enables all CI relationships pushed from UCMDB to SM to be involved in the outage dependency functionality. When a CI relationship is pushed from UCMDB to SM, the "Outage Dependency" is set to true, and the outage threshold is set to "1".

In a DEM rule record, if the Table Name is "cirelationship", a new option **Add the record, and set dependency as true** is available for **Action if matching record does not exist**.

### *New Options for Synchronizing CI Deletions from UCMDB to SM*

In a DEM rule record, if the Table Name is not "cirelationship", new options are now available for **Action if record is to be deleted**.

The out-of-the-box integration content has been enriched to support more CI/CI Relationship types and subtypes for data push.

### **Planning CI Relationship Changes from a Change Record**

In Service Manager earlier than version 9.31, you can plan Configuration Item (CI) attribute changes from a change record, but you can only change relationships immediately rather than plan them for future changes. On the other hand, it is possible to have CI relationships be validated through UCMDB (which may result in unplanned changes), but it is impossible to plan CI relationship changes.

Service Manager 9.31 now provides the ability to plan CI relationship changes from a Change record of the Planned Change category. Two tables (dataModEventRel and dataModEventRelItem) were added to store the data modification events of relationship records and their downstream CIs. In addition, the same data modification event status change applies for both CI attributes and CI relationships. All changes will be logged incrementally. For example, if a change plans to add one downstream CI to an existing relationship that already has two downstream CIs, only the new downstream CI will be listed for tracking or approval.

### **Process Designer**

Service Manager (SM) Process Designer Content Pack 9.30.1 includes a number of fixes for problems introduced in Process Designer Content Pack 9.30.0. These fixes affect the Change Management module and the following integrations (which involve Change Management): SM-OO (Operations Orchestration), SM-UCMDB (Universal CMDB), and SM-RC (Release Control).

This content pack release also includes an updated version of the Integrations chapter in the Service Manager 9.30 online help (in PDF format). The documentation has been updated for the new integration behaviors in this content pack release.

**Note:** The SM-UCMDB integration section in this document assumes that the UCMDB Integration Content Pack 9.30.0 is applied in Service Manager. For information about this UCMDB integration content pack, go to HP Live Network at <http://www.hp.com/go/livenetwork>.

### **Upgrade Tool Enhancements**

The Upgrade tool was enhanced significantly in the period between Service Manager 9.30 and Service Manager 9.31. These enhancements are detailed in the following list:

- Added support for multi-run and multi-language select capability.
- Created a 3-way signature compare. For example, if there is no change in the upgrade-version of an object from the out-of-the-box (OOB)-version, it is very safe to keep a customer-tailored copy of the object.
  - Automatic 3-way merge: Should automatically resolve 60%–90% of changes between an upgrade version and customer-tailored objects.
  - Revert functionality: Should be able to revert changes done by either auto-merge or introduced when resolving conflicts manually.
  - Simplified conflict resolution by using an integrated 2-way merge.
  - Possibility of using third-party visual 3-way merge tools for manual conflict resolution.
- Added "Mass Mark as Reconciled" and "Mass Choose Upgrade" functions to help perform conflict resolution.

## **Service Manager Version 9.30**

The major theme of Service Manager 9.30 is to provide an integrated, automated and self-service solution for the Instant-on Enterprise with ease of use, improved productivity, end-user satisfaction and reduced risk.

### **Server RTE changes**

#### **Performance Improvements**

The login performance improvements described below are a combination of application, client and server changes.

#### *Database I/O Reduction*

Service Manager 9.30 now uses Select <Column> on the RDBMS instead of Select \* in multiple areas where SM only needs partial data during the login processing of the applications. This reduces LOB access and joins of multiple tables.

Additionally, we eliminated multiple access to the same core data and reduced overall access against the inbox table, and we now use count instead of select during the inbox setup. The setup of global lists was also improved.

#### *Virtual Join Record Set Improvements*

In some cases, customers join very large record sets causing slow response time and resiliency issues. We improved both response time and resiliency by only selecting from the database the columns that are needed for the display and setting a default maximum number of rows that will be returned. This can be controlled through a new parameter `vj_record_limit:2000`.

#### *Improve Client/Server communication*

We reduced one set of request/response communications by sending attachment information as part of the initial server response, if attachments exist for the record.

#### *Reduce database I/O to display tickets*

The same record was being accessed multiple times when displaying tickets, so we changed the code to retrieve the record once and use that record throughout the workflow.

#### *Reduced Server Group Communication*

The runtime license used information that was stored in shared memory, and was broadcasted by jgroup. With SM 9.30, we now store the license tracking information in a central table, which is more efficient and scalable. This change removes Jgroups traffic for licensing, and improves scaling. Now the same approach is used for vertical and horizontal scaling mode.

### **JavaScript changes**

#### *New setFields() method*

This method causes any subsequent `doSelect()` calls to fetch only the specified fields for a read-only SCFile object. If `setFields` has not been called on a table, all fields are selected and a `SELECT *` is performed.

#### *New setOrderBy() method*

This method causes any subsequent `doSelect()` call on a SCFile object to fetch only the specified fields by the specified sort sequences of the SCFileObject. If `setOrderBy()` or `SetFields` has not been called, all fields are selected and a `SELECT *` is performed.

#### *New doPurge() method*

This method enables you to purge a set of HP Service Manager records directly on the back-end RDBMS while bypassing record level processing. The `doPurge()` method is an alternative to `doDelete()` or `doRemove()`. It enables the back-end RDBMS to do most of the processing, thereby improving execution times when deleting a large amount of data from a single table.

**Note of caution:** When you use `doPurge()`, Service Manger deletes a set of records. This causes a delete to the back-end database. When Service Manager attempts to delete a large set of records, the database could run out of space for this activity and cause an error. Each supported database platform provides some type of transaction or undo log to back up data changes and allow a rollback in case of errors. If you encounter such an error, please contact your database administrator and ask them to increase the size available for this purpose.

#### *New getPurgedRowCount() method*

This method enables you to retrieve the number of HP Service Manager records that were deleted from a table after invoking the `doPurge()` method.

### **New JavaScript tracing**

If you are a Service Manager JavaScript developer and want to trace JavaScript execution invoked from within RAD, specify `"rtm:3"` in the `sm.ini` configuration file.

This will log:



- The JS file name and the function name
- The function enter and exit line number in JS file
- The parameter name and type in JS function
- The JS function execution time duration

Example for JS Tracing log

```
RTE D SCRIPTTRACE: localizeTable.getLocalizedValues entered, line 210

RTE D Parameter type:STRING value:categories

RTE D Parameter type:ARRAY value:{"complaint", "incident", "problem",
"request for change", "request for information"}

RTE D SCRIPTTRACE: localizeTable.getLocalizedValues exited, line 219 elapsed:
110 ms
```

### Supportability Changes

- Diagnostic counters

You can run `sm -reportdiagnostics` on a command shell to retrieve the traced Information by servlet. The information provided includes:

- Webservices transaction counts / size (max size of a webservice transaction / avg size)
- PID, Port, Count, Request total (MTOM attachment), Request Average (MTOM attachment)
- Response Total (MTOM attachment), Response Average (MTOM attachment)
- Sessions login/logout per servlet container
- PID, Port , Session Login count, Session Logout count
- Database client transmission volume / size (network traffic)
- PID, Port, File name (a.k.a. Table name), Select operation count, Insert operation count
- Delete operation count, Count operation count, Sort operation count, Find operation count
- Fetch operation count, Initial DB relation operation count, Cache limits operation count
- Term operation count, Cache Term operation count, Cache Find operation count
- Heartbeat interval - request response count
- PID, Port, Heart beat count, Heart beat interval
- Applications
- PID, Command, Module name, App name, Count
- eventin/eventout records processed; emails in / out
- Dump the client's last SOAP request when a soap fault occurs  
The dump occurs automatically when the server responds with a SOAP FAULT or on any other indication that the server was unable to process the request.

To log the soap request and fault information the code has to contain:

```
if (fault != null){ SoapUtil.logSoapFaultInfo(...) }
```

To log the request and exception info when the server was unable to process the request and an exception was thrown, the code has to contain:

```
catch (Exception e)

    {fException = e;

    SoapUtil.logSoapExceptionInfo(...); }
```

- Log browser and web (app) server version

When users log in through the web client, the browser type, browser version and application server type and version are logged in the `sm.log` on the server. For example:

RTE I SOAP client information scguiiweb 0.00.000 (DAILY.025) at 16.186.77.184  
Browser Chrome 8.0.552.215 AppServer IBM WebSphere Application Server 7.0

RTE I SOAP client information scguiiweb 9.30.021 (021) at 16.158.54.68 Browser  
MSIE 7.0 AppServer Apache Tomcat 7.0.4

RTE I SOAP client information scguiiweb 0.00.000 (DAILY.034) at 16.213.217.152  
Browser MSIE 7.0 AppServer WebLogic Server 10.3.2.0 Tue Oct 20 12:16:15 PDT 2009  
1267925 Oracle WebLogic Server Module Dependencies 10.3 Tue Oct 20 13:57:01 EDT

RTE I SOAP client information scguiiweb 0.00.000 (DAILY.025) at 16.158.154.248  
Browser Safari 5.0.3 AppServer JBoss Web 2.1.3.GA

This functionality is supported on the Safari, Chrome, Firefox, Internet Explorer, and Opera browsers and the Weblogic, Tomcat, Webshpere, and Jboss Web Application Servers.

- HTTP trace for a single web client

Previously SOAP messages could only be logged through a server parameter (debughttp). Providing this functionality for a single web user through the URL makes it easier for administrators and support.

To activate the SOAP log, add `?tracesoap=true` to the URL and log in.

The SOAP messages are logged in the current sm.log file in the web application server.

On user logout or session timeout, it will stop logging SOAP message.

- Log4JS

Log4js can be used in any Service Manager JavaScript. It provides a means to trace information in the Message view while controlling the level of detail being logged. It allows developers to turn inline debugging on and off, allowing developers to set the following logging levels.

log4js log level Description:

- OFF Nothing is logged.
- ALL Everything is logged.
- DEBUG Debug information is logged.
- INFO Information messages are logged (default).
- WARN Warning messages are logged.
- ERROR Error messages are logged.
- FATAL Fatal error messages are logged.
- You can use the following method to create an instance of the logger:  

```
var myLogger=new lib log4js.Log(lib.log4js.Log.INFO);
```

### **Replace scemail with a java based email solution**

SCEmail provides a monitor to handle HP Service Manager Email events. This monitor connects HP Service Manager into standard Email facilities and allow HP Service Manager operators to send email. Any Mail system that supports Simple Mail transfer Protocol (SMTP) can retrieve Email from SCEmail. The email message enclosed with `<html>` tags is recognized as an html message, otherwise it's recognized as a plain-text email. To run SCEmail, run `sm -emailout` from a command shell or sm.cfg

Parameters for SCEmail are:

- Smtphost: SMTP host name
- Smtpport : SMTP host port
- Smtppusername: Mail sender name
- Smtppassword: Password for Mail sender
- smtpTLS: Enable/Disable TLS for SMTP Server
- smtpEnableSSL: Enable/Disable SSL for SMTP Server
- smtpSSLPort: port for SSL connection
- mailFrom : the default mail from value used to send out an email

## LWSSO changes

- LWSSO between SM 9.30 and RC requires the latest version and patch of RC, since the Symphony adapter is no longer needed for LWSSO between RC and SM / UCMD and SM and LWSSO setup is now done directly on Service Manager. The lwssofmconf.xml is now in the server/RUN directory:

```
<?xml version="1.0" encoding="UTF-8"?>
<lwssso-config xmlns="http://www.hp.com/astsecurity/idmenablmentfw/lwssso/2.0">
  <enableLWSSO enableLWSSOFramework="true"
  enableCookieCreation="true" cookieCreationType="LWSSO" />
  <web-service>
    <inbound>
      <restURLs>
        <url>.*7/ws.*</url>
        <url>.*sc62server/ws.*</url>
        <url>.*ui.*</url>
      </restURLs>
      <service service-type="rest" >
        <in-lwssso>
          <lwsssoValidation>
            <domain>example.com</domain>
            <crypto cipherType="symmetricBlockCipher" engineName="AES"
            paddingModeName="CBC" keySize="256" encodingMode="Base64Url"
            initString="This is a shared secret passphrase"></crypto>
          </lwsssoValidation>
        </in-lwssso>
      </service>
    </inbound>
    <outbound/>
  </web-service>
</lwssso-config>
```

## Client Changes

### MySM Improvements

We improved MySM performance amongst other things with a slower refresh rate. MySM for ChM components are now available via HP Live Network. Customers can now create and share custom MySM components – like their own pie and bar charts.

### Mobility Extension

The benefit of the mobility extension is that it shortens closure or approval time for key SM users

Field support engineers (incident analyst) can view and update an incident ticket (resolution status, descriptions, etc) in real time, re-assign the ticket to proper assignment group in real time and view newly assigned high priority tickets. Change approvers approve changes in timely manner outside working hours, and approve or update change requests without opening up PC. The mobility extension is supported on a wide range of Smartphones: iPhone, Android, Palm, Blackberry OS 6+.

### End-user self service through SRC

Benefits for End Users are that the new Support Self Service interface provides them with a simple, easy and interactive mechanism to request help from IT for some of their most common problems. For IT, the benefits include lowered IT support costs due to self service and expedited resolution of end user issues by creating properly categorized support requests, collecting all relevant information, and automating the resolution all of which combine to help minimize helpdesk involvement.

## Application Changes

### Easier tailoring of the SRC interface

It is now possible to customize the SRC checkout forms through simple tailoring. This will enable the customer to adapt the Service Request application to their business processes and streamline request approval and processing by requesting all information immediately at the source. Additionally, it enables automatic provisioning by avoiding the necessity of IT staff interaction with the requester.

The customer can define different customizations for Service, Support and Self Service Ticketing requests. The additional information entered by the end user will be stored in the request fields. The custom sections are managed in Service Manager, with wizards guiding the developer through the easy steps. The Service Manager localization mechanisms are automatically leveraged, and the customized panels will be automatically preserved during system updates and upgrades.

### **Approval Delegation through SRC**

Approval rights can now be delegated directly through the SRC UI. The approver can delegate Service Request approval to an individual, specify a date range when this approval is valid, and delegates can then approve the requests. Delegates are able to see for whom they are approving as well.

### **Service Catalog line item approvals**

Some Business Services require specific approval, or a customer needs catalog item approval auditing. With Service Catalog line item approvals, catalog items approval can be enforced, even if the item is part of a bundle. As a benefit of this functionality, approvers see in their inbox exactly what they have to approve, and end users know exactly which item is the cause for a request rejection. A rejected request can then be resubmitted, and approvals already granted to line items are preserved.

### **Process Designer**

Process Designer provides a platform for a business analyst to easily build ITIL compliant processes, workflows and business rules graphically. Knowledge Management is the first Service Manager module to leverage the new Process Designer workflow, Change Management can be downloaded as an application patch from the HP Live Network site for ITSM, with further modules following. The Process Designer includes enhanced methods to configure and modify workflow and business rules, and through this functionality, Knowledge Management workflows now stand independently of Change Management workflows. The status of the workflow can be visualized, and advanced processes can be modeled.

The Business Rule Editor is used to create and edit business rules with a configuration user interface, and associate rules with workflow states and transitions to easily build a process. The Editor is only available on the Service Manager web client and will be the only supported method of defining workflows for enabled modules. Existing Format Controls, Validations, and Macros will continue to function, but all go forward emphasis and enhancements will be around new business rule editor. The administrator screens used for editing processes in Process Designer will be built as JSP pages using modern UI and libraries instead of the existing forms designer.

If used correctly by cloning the work flow and using the existing Rule Sets and adding to them as needed, future upgrades will be simplified.

Additionally, a new common role-based security model was introduced with the Process Designer

The following rule types are available in Service Manager 9.30:

- Validations
- Mandatory Fields
- Mandatory Variables
- List Validations
- Table Validations
- Java Script Validation
- Calculations
- Set Field by JavaScript
- Clear Fields
- Run a wizard
- Call a Process
- Notifications
- Send Notification
- Launch an URL

### **New Search Engine for Knowledge Management**

The SOLR search engine enables our Knowledge Management module to index over 1,200 unique file formats, including latest versions of MS Office and OpenOffice formats, PDF, HTML/XML, compression, image, audio, etc.

Due to its flexible architecture, it provides scalability and improves indexing performance by supporting the use of multiple index servers. It supports high availability architecture such as decoupling of search servers from index servers, replication of the search server to multiple servers, and the addition of a load balancer across multiple search servers and provides fail-safe capabilities such as the creation of a second index server or search server for failover and the ability to switch to a backup server immediately without having to restart or log out and log back in to your Service Manager server

The search engine runs on multiple platforms, with the same server compatibility as Service Manager, and due to its up-to-date technology offers improved APJ language support. Thesaurus maintenance is a lot easier compared to the old search engine, since it can now be done through text based editing.

Upgrading from custom legacy search engine to the cutting edge SOLR search engine is invisible to the end-user, and the administrator only needs to point to the new SOLR search servers and re-index. The Search Engine Management has been greatly simplified – there is no more need for mapped drives and complex environment records.

The new File/Web Crawlers are no longer chained to search engine, and can be located separately, with many new website formats supported.

### **Improved upgrade utilities**

- **Assessment Tool**

The assessment tool only supports versions Service Center 6.28, Service Manager 7.02 and Service Manager 7.11. Besides English, it also supports four localized languages: French, German, Spanish and Simplified Chinese. It is a new reporting tool that assists in assessing the health of an SC or SM system. It combines 50+ reports that determine whether a customer is a good candidate to migrate to Service Manager directly and highlights what pre-migration work needs to be done to prepare the data for migration. Once issues the reports highlighted are resolved, the SC to SM migration will proceed more quickly. The current assessment tools provide most benefit for SC to SM migrations.

- **Automated Conflict Resolution**

A few conflicts can now be automatically resolved by adopting a 3-way merge methodology.

Even in the case of a manual conflict resolution this methodology reduces the risk of errors, it provides vital information for the conflict resolution, by showing the difference between the customer version and the out-of-box version of the same release level.

Other automated steps include:

- Field length changes are now 100% automated
- Key changes are 100% automated
- Field Type Change from CHAR to VARCHAR is now automated
- SQL Mapping changes are ~95% automated

Additionally, the option to scan and fix Service Manager data checks for inconsistent data types, duplicate keys and null keys on roughly 100 tables.

### **Documentation**

In Service Manager 9.30, multiple guides available with version-specific content. With the interactive document generating feature for online or print, you can generate and then print only the information relevant to your environment.

The upgrade Guide now has a separate upgrade guide per each supported version (6.2x/7.0x/7.1x/9.2x) with some pages eliminated due to the automated steps.

## **Service Manager Version 9.2x**

The version number was increased to 9.x to align to the other HP BTO product lines.

The major release theme for Service Manager 9.20 was improved user experience. This included a Web 2.0 UI update for the key processes and form modernization and simplification.

### **Server RTE changes**

#### **Improvements to server resilience**

Restarting one or more processes allows Service Manager to offer high availability without having to restart the complete Service Manager server application / service. The ability to restart single processes is useful both as a tool to troubleshoot or to release system resources. The administrator can use the new restart command to schedule the restart of one or all Service Manager processes on a host. If the

`restartGraceInterval : 15` parameter is used, the Administrator can schedule a notification message to go out to affected users to prompt them to logout and log back in before the grace period ends.

A new Service Manager server feature provides a mechanism to automatically select a valid shared memory location so that our users don't have to manually analyze SM process space to find a valid shared memory space.

### **Miscellaneous changes**

The SCFile JavaScript Object now includes methods for attachment handling.

## **Client Changes**

### **Menu navigator improvements**

For optimized ease of use, the menu navigator was improved. The new accordion design provides a Web 2.0 look and feel, the control to collapse and expand the navigator bar allows more intuitive navigation, and on fast-view, the navigation tabs no longer overlap the navigator, making their scope clearer.

### **Record list improvements**

Record lists in the queue were enhanced by moving the controls from left side of record list to tool tray and filling the entire vertical and horizontal space available, with just one scroll bar visible, rather than both a browser scroll bar and a record list scroll bar.

In all record lists, the end user can select the number of records per page: 25, 50 (default) or 100 records. Using the paging control, users can step forward and back one page at a time, visit the first or last page, if the number of the last page is known. The new sort indicator shows which column is sorted and in which direction.

Additionally, the records lists have improved multi-select of records using the keyboard and an auto refresh of the list was added to complement manual refresh.

### **MySM dashboard**

The new MySM operational dashboard leverages the BTO UI Mashup technology and provides role-based graphically driven operational summary data. All end-users can easily customize charts in real time via a simple dialog with drop down lists and navigate by interacting with the charts.

### **Performance improvements**

Performance improvements in the web client were implemented by removing icons from the options menu and pre-loading frequently used images. Caching of RAD threads on the browser side help avoid web server round trips when switching from one navigation tab to another. Scalability was improved through improved HTML generation performance, JavaScript loading was moved to the end of the page so users can start interacting with the page without waiting for all JavaScript loading to finish. Both CSS and JavaScript are minified at build time (strip the whitespace out of the script) for faster transfer.

### **Web Client Brandability**

Now administrators can more easily change the masthead at the top of the form to reflect their company's brand logo, colors and look-and-feel. The support for multiple Cascading Style Sheets (CSS) means companies can select from alternate themes. All supported changes to the Web Client's masthead are documented in the online help.

## **Application Changes**

### **Form and tool tray simplification and improvements**

The updated forms are less complex and provide better efficiency, fields and labels are better aligned, with the labels left-aligned to the fields, and mandatory fields now marked by a better visible red asterisk between label and field. The Look and Feel was improved to be more consistent with other BTO applications with a cleaner and more optimized layout.

We simplified the tool tray of the main modules by providing consistent tool tray menu buttons across user forms and specifying intuitive and explicit labels that correspond to user actions.

We strive to make better use of the browser space with our Web clients. All forms are designed for commonly used monitor size and screen resolution (1024 x 768, 1280 x 1024) with new collapsible sections and sub-sections rather than notebook tabs. This provides larger text areas and wider tables while reducing complexity. Hover-over fields replace subforms for displaying detail information in virtual joins, all related records are consolidated into a single table and the history tab information was consolidated into Activities table.

It is now possible to update frequently used data with fewer clicks due to the field and section order change based on frequency of use for best consistency and efficiency. Right-aligned labels and the new required field indicator make it easier to detect required fields and match the label to its input fields.

### **Integrations improvements**

New Change Calendar (integrated from Release Control) is now embedded for users of Change Management, Problem Management, Incident Management, and Service Desk. Compared to the old change calendar, the embedded Change Calendar has a more familiar MS Outlook-like look and feel for easy adoption. Powerful decision support is provided with the calculated Release Control Analysis (RCA) change risk and impact that helps determine change type and workflow and displays in-situ when working with RFC's in Service Manager. More powerful new features are available with the CCRM 9.0 unloads for Service Manager, such as multi-tenant SM + RC integration and enhanced support for RC integration in Multi-Tenant environment

For enhanced support for the CLIP & CCRM solutions, Operation Orchestration now integrates both with Knowledge and Change Management, and the BTO Data Model is supported for Incidents

### **Record tag localization utility**

Localization enhancements include a new Record Tag Localization Utility that enables the externalization and localization of statuses and codes such as Boolean values, ticket status, category, etc. This utility automates screen and data policy modifications to use localized values and thus provides localized global lists support.

## **Documentation**

The Document Engine tailoring guide offers procedures, explanations, and best practices for the Document Engine in Service Manager, a tailoring tool that offers customers the possibility to customize the system without the need of RAD changes.

The Wizards tailoring guide discusses the purpose and functions of wizards. It describes the Wizard tool that you use to create new wizards, and defines and describes each of the fields the tool includes.

The Web Services tailoring guide explains what Web Services are and how to implement Web Services with Service Manager both as a consumer and provider of Web Services.

The online help includes interactive (Adobe Acrobat Reader 9 or higher required) Entity Relationship Diagrams of the Problem, Change, Configuration, Service Desk, and Incident modules.

To give our customers a better and easier method of finding key information the Help Server Launch Page is a new opening page in the Service Manager online help that includes important links to HP sites, too.

With this version of the Service Manager documentation, it is possible to create PDF printouts of ALL online help topics.

## **Service Manager Version 7.1x**

### **Server RTE changes**

#### **Improvements to the RDBMS interfaces**

We improved SQL DB column and index management by adding index information to sqldebug output. When using sqldebug:1 or higher in the sm.ini file, the debug output will show all the indexes defined for a table whenever a table is opened for the first time in a session. The index information includes schema name, index name, columns indexed, and type of index. Also when adding, changing, or removing a key from a dbdict, a create, alter, or drop statement for the related index on the RDBMS is created if the rights are sufficient, or we create the according DDL statement.

When changing a data type from char to varchar or vice versa, widening (not shortening) a column, or renaming a SQL column, Service Manager will issue an alter table command to the RDBMS rather than perform a full table copy. Should the SysAdmin try to shorten a SQL column an error message will be generated, since this action is not supported on all RDBMS.

During initial data load or a remap of existing data, we implemented conversion of n-prefixed data types in SQL Server to an equivalent type in Oracle & DB2, such as GRAPHIC, VARGRAPHIC, DBCLOB for DB2 or NCHAR, NVARCHAR2, NCLOB for Oracle

## Server resiliency improvements

Servlet and load balancer changes to improve resilience include added batch sizes for the counter file for use as fast counters to minimize locking on the counter file. A new counters semaphore was also introduced to the system. We added the ability to use fastcounters on additional tables, i.e. number or irqueue

The status of the cluster is reported using "sm -reportlbstatus:20", which is a standalone process fetching the status and writing the status on screen or to a log file. The new reportgroup parameter allows this reporting to be done per process as defined in the sm.cfg, for example sm -reportgroup:60,20. The syntax for the reportgroup parameter is:

```
-reportgroup:m,n Reports Status of the cluster. Repeats every m seconds for n number of times.
```

Each server instance will self-monitor and deny service(s) depending on resource availability.

When running an automated load test, set the recordtestscript parameter to 5 limiting the number of RAD threads in load tests to 5 threads. Otherwise during load testing, the memory consumption grows quickly when the number of RAD threads grows, potentially causing OutOfMemory errors in the servlet. The dryrun startup parameter was introduced for load testing as well.

Core dump generation is now disabled by default. Set the enablecoredump parameter in the sm.ini on all platforms to enable core dumps.

## Web Services changes

A new Web service extension to provide MTOM attachment support was introduced. For backwards compatibility for HP OpenView ServiceCenter 6.2 servlet mode use:

```
http://<servername>:<port_number>/sc62server/PWS/<service_name>.wsdl
```

This URL is for backwards compatibility and supports MIME attachments. The new Service Manager URL is

```
http://<servername>:<port_number>/SM/7/<service_name>.wsdl
```

and supports MTOM attachments

For example, type `http://myserver:13080/SM/7/IncidentManagement.wsdl` to view the Service Manager Incident Management service WSDL from myserver. The server also responds to requests with ?WSDL as the file extension.

The Service Manager server automatically generates a WSDL file whenever it receives an HTTP *get* request for WSDL. Service Manager WSDL files use XML Schema definitions to describe literal Web services.

**Note:** In order to avoid receiving the "Invalid XML schema: Element <xs:import> is not allowed at this location under element <xs:schema>" error when viewing any multiple object WSDL (for example, ConfigurationManagement.wsdl), disable the validation in the SOAP tool you are using before loading the WSDL and creating a web service request.

Additional improvements to the WSDL2JS utility were implemented to support more functionality.

## Improved attachment handling

Improved attachment handling to improve performance was implemented, in avoiding unnecessary uncompress and compress of attachments before sending them to the client. This reduces server memory and CPU utilization on the server. The client uploads and retrieves attachments individually instead of all in one message. The server sends compressed attachments to the clients even when SOAP compression is disabled. The server receives compressed attachments from the clients. Due to this change, there is no backward compatibility for 7.0 clients.

A system administrator can specify the input field for the attachment widget in forms designer. Bring up a form in Forms Designer with an existing attachment widget to see the new property for the input of the widget

## Miscellaneous changes

Additional changes include support for IR searching fields containing HTML tags and Service Manager support LW-SSO (Light-Weight Single Sign On) for the BAC and RCA integrations.

With Service Manager 7.10 the memdebug output can be written to a separate log file. We recommend to run `memdebug:1` first to find out if there are memory leaks. If reproducible leaks are found, rerun with `memdebug:400` and send the result to support for analysis.



## Additional changes in Service Manager 7.11

We implemented changes to IR (Information Retrieval) Expert to be more stable when used in a horizontally scaled environment. This includes new parameters:

```
Sm.ini: -ir_irqueue_max_locktime:n          (default 10 seconds)
Sm.cfg: -sm -que:ir -sleep:n                (default 300 seconds)
```

With the new sm.ini Parameter `memorypollinterval:n` (default 15 seconds, 0 is disabled) the memory monitoring thread will check for available and max memory every 15 seconds. This parameter only applies to Java Memory, not native memory.

## Client changes

### New forms designer widgets

New Hover sub-forms can be used to display detail virtual join information to conserve real-estate, reduce database transactions, and improve performance.

The new list builder widget is available for selecting multiple elements from a predefined list, such as selecting approval groups to delegate in the new Approval Delegation feature. The list builder can be used anywhere in the system where an array of values is built from a list of preexisting values.

### Web client form scaling improvements

Improved horizontal form scaling and hover label text to provide improved international support on the web client. The web.xml contains new values for the hscale tag (horizontal scale factor) and the form adjusts to the window when the screen is refreshed after window size was changed. The default value for the hscale tag is set to `scaletowindow` to achieve the stretch of the form to fit the window

Other options available are `scaletotext` which keeps track of the largest label and adjusts all fields on the form with that factor or hard-coded scaling factors meaning: 0: no adjustments, 1 and 2 increase the size of the form within the window by 1 or 2. If a label is truncated despite horizontal form scaling, the full label name is shown in a mouse hover popup.

### Miscellaneous client changes

With Service Manager 7.10 you now have the ability to remove forced alphabetical sort order in System Navigator Menu Navigation and introduce a more logical sort order.

We improved consistency in record list and detail right-click behaviors between web and windows clients

Chart titles were modified to provide only table and field queried for the chart rather than the complete query used to create the chart.

Attachments are now always sent from server to client in compressed format and uncompressed at the client for better performance and smaller network footprint

The advanced debugger functionality was removed, the RAD debugger is still available on the Windows client.

### Web tier performance improvements in SM 7.11

The Service Manager web client loads a large amount of images and JavaScript when it first accesses Service Manager. This was improved by using sprites to group images. Sprite images are combined into a single larger image with specific X and Y points, which reduces the number of round trips from browser to web tier. Additionally minification of JavaScript by removing excess content (such as white space) improves delivery time to the browser. With both these changes, high latency networks will realize improvement of up to 30% on initial connection behavior. Low bandwidth networks may still experience a bottleneck with very large transaction volumes.

## Application changes

### Application Upgrade

The Service Manager 7.10 upgrade utility allows upgrade from SC 6.2 and newer to SM 7.10.

To make conflict resolution easier, an XML representation of Service Manager tailoring records is made available including a diff tool for evaluating changes in Service Manager tailoring records. To use the diff tool, log in to the Windows client and

view the upgrade results by searching for forced or renamed records. The merge option then shows the XML representation of the old and the new record. Use the arrows on top to move all or select changes from the new record to the existing one for easier conflict resolution. Finally mark resolved upgrade results as reconciled when finished.

We changed the upgrade utility to use RTE functions to load files, which is much faster than loading mass amounts of data through RAD applications. In case the data load was interrupted for any reason, the upgrade data load processing now allows restart in the middle of the data load step rather than having to start from the beginning of the step. To achieve this, we created multiple more manageable unload files to load during the data phase and checkpoint which files were loaded successfully and in case of failure, start with the one that failed.

Improved database modification capabilities to speed the upgrade include leveraging the enhancements to the ALTER TABLE capability. The upgrade will now generate ALTER TABLE statements to change data types and add new fields, which is much more efficient than the full table copies of the past.

## Approval Delegation

The new approval delegation feature allows a user to delegate approvals to another user. The right to delegate approvals needs to be given by system administrators and is disabled by default in the out-of-box system. The ability to delegate approvals is enabled in the user's profile for the appropriate modules. To activate the changed settings, the user has to log out and back in.

The Approval Delegation option can be found in the root of the Menu Navigation. Within the menu item, you can edit or add new delegations for all or select approvals. Approval Delegation is only possible for modules where the delegate approval right is set and for your approval groups / individual approvals. Different delegations can be set up for different areas for the same time, or different delegations for different times.

The Approval Queue shows delegated approval requirements along with personal approval requirements, the ApprovalLog documents approvals performed as a delegate. Approval Delegations are audited for compliance reasons and the utility provides audit tracking of changes to approval delegations.

It is not possible for the user to delete approval delegations, they can be marked inactive or will expire automatically after the set time. Removal of old delegations is not available to ensure proper traceability, for example of who was a delegate, for what time, and assumed approval rights for whom.

## Configuration and Change Management

### Discovery Event Manager

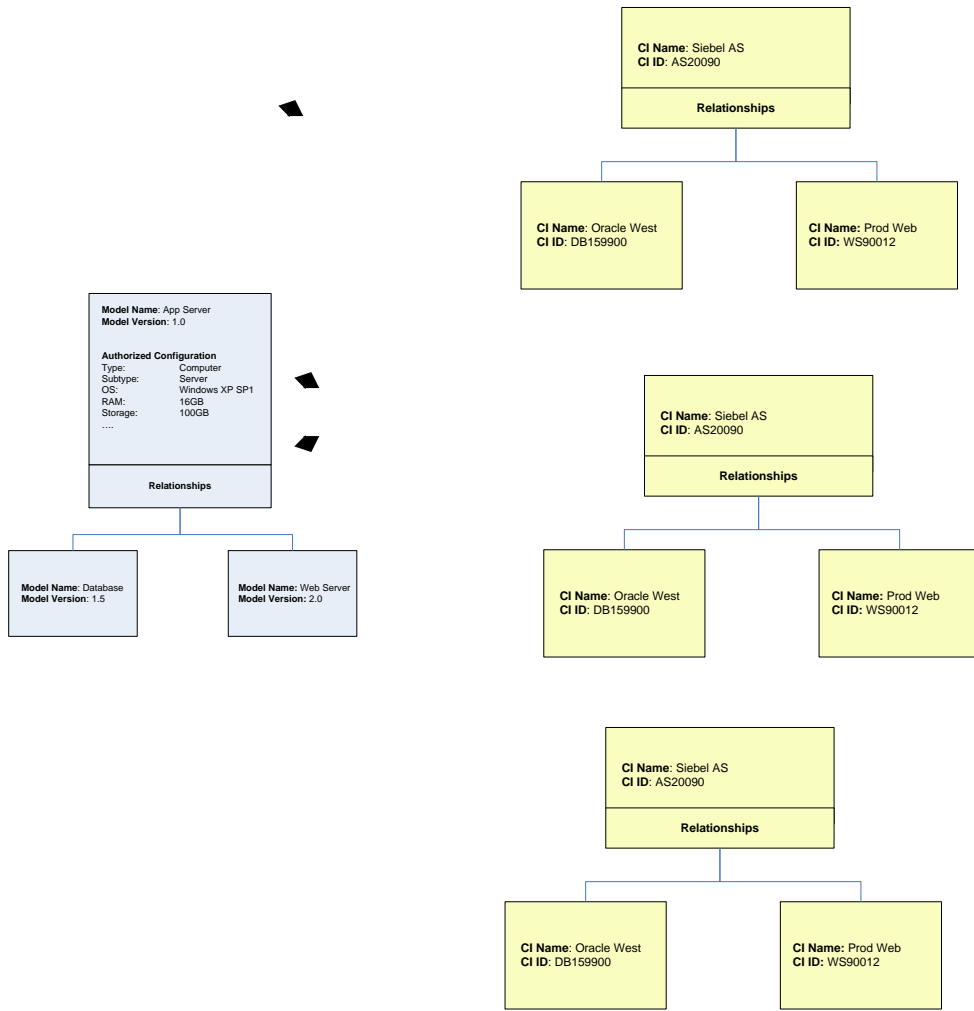
The Discovery Event Manager (DEM) defines managed fields that determine the CIs managed state and determines how discrepancies between UCMDB and Service Manager managed state are handled.

The screenshot shows the 'Discovery Event Manager Rules' configuration page. At the top, there is a green header with the text 'Discovery Event Manager Rules'. Below this, there are three input fields: 'Id:' with the value 'ucmdbComputer', 'Table Name:' with the value 'joincomputer', and 'Condition:' which is empty. Below the input fields is a navigation bar with four tabs: 'Rules', 'Managed Fields', 'Incident Customization', and 'Change Customization'. The 'Managed Fields' tab is selected. Under this tab, there are three sections for defining actions based on record states:

- Action if matching record:** This section has a dropdown menu set to 'Managed Fields'. It contains three radio button options: 'Add the record' (selected), 'Open an Incident', and 'Open a Change'.
- Action if record exists but unexpected data discovered:** This section contains three radio button options: 'Log Results and Update Record', 'Open an Incident', and 'Open a Change' (selected).
- Action if record is to be deleted:** This section contains three radio button options: 'Delete Record' (selected), 'Open an Incident', and 'Open a Change'.

### Baseline configurations

The purpose for baseline configurations is to conform CIs to baselines through Change Management. Baselines should define all the authorized or expected attributes for a type of CI configuration. Baselines can be versioned, so that variations can take place and get documented over time. A CI Instance can represent a physical implementation of a baseline and CI Instances can be associated with a corresponding authorized baseline



A new SM view is available out-of-box highlighting various CI instances that deviate from their baseline requirements.

**Configuration Item**

Queue: Configuration Item View: Devices not compliant with baseline

[New](#)  
[Search](#)  
[Refresh List](#)

Logical Name	Type	Network	Location	Model	Status	System Down?
CI10869	computer	pdo20...			Installed	
CI10876	computer	devdu...			Installed	
adv-afr-la...	computer		Africa	HP 6820s	In Use	
adv-afr-la...	computer		Africa	HP 6820s	In Use	
adv-afr-la...	computer		Africa	HP 6820s	In Use	
adv-afr-la...	computer		Africa	HP 6820s	In Use	

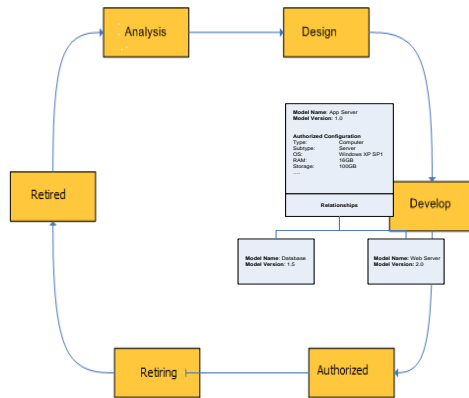
The user drills down into an Instance to view the deviation deltas and can see details such as:

	Baseline	Authorized / Managed
<b>OS Version</b>	Windows XP SP1	Windows XP SP2
<b>Memory</b>	16GB	8GB
<b>Storage</b>	100GB	100GB

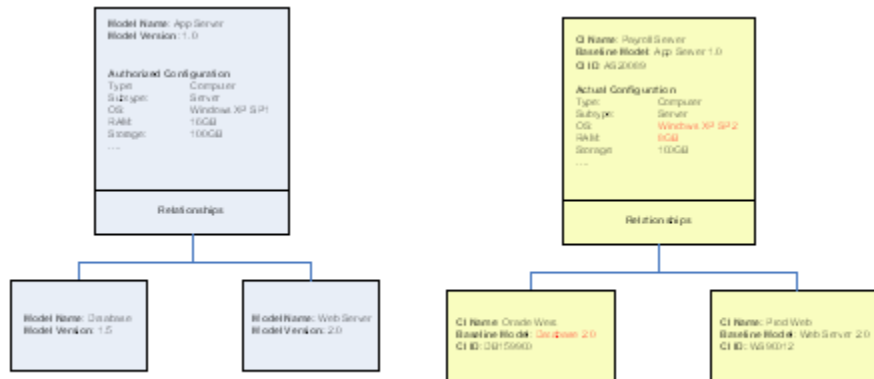
The new baseline feature includes the baseline configuration lifecycle and baseline exception reporting.

The baseline status progression through the lifecycle includes phases such as:

- Analysis
- Design
- Develop
- Authorized
- Retiring
- Retired



Baselines provide formal support for Actual, Authorized, and Planned CI states. At times, actual instance configurations may differ from authorized baseline configurations. These discrepancies can be managed via Change Management, or Incident Management



### Authorized State

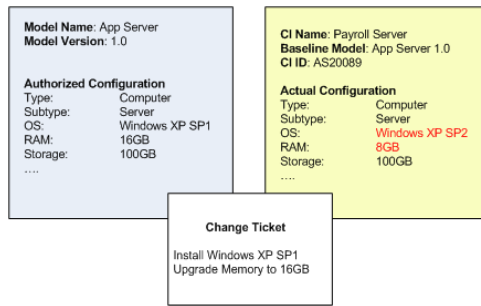
The Configuration Management solution tracks and manages Authorized CI States. Modifications to authorized states should be managed under standard workflows in Change Management

### Actual State

Actual State is provided by direct access through UCMDb. Actual State data is not replicated into Service Manager

Typically when an exception to the authorized state is found, it is due to an unplanned or unauthorized change, such as a user adding more memory to his machine. An unplanned change can either be approved and the CI is left in the new state,

or disapproved and backed out. When an unplanned change is approved and closed, the managed state should be updated automatically.



### *Change Management verification*

For planned changes, the UCMDB can be used to verify that the change was done according to specifications. Verification ensures that approved changes take place as specified by Change Management. For example, A Change ticket is opened, approved, implemented, and is now awaiting verification. The UCMDB runs a scheduled scan on the CI, and Change Management is provided delta information for what has changed in the CI. Various scenarios are handled during Change verification:

- Not all delta received – change remains in verification phase
- All expected delta confirmed – change verification phase is closed
- Unexpected delta received – change phase moved into conflict resolution

Alerts are defined to monitor that verification notification is received within a set amount of time

Finally, the Change Management module provides the ability to perform a Change Management review, to document what worked or did not work well during this Change.

### **Embedded best practices**

New out-of-box content was aligned to Service Manager best practices in the following modules:

- Service Desk
- Incident Management
- Change Management
- Problem Management
- Known Error
- Configuration Management
- Service Level Management

The out-of-box content includes extensive new documentation, process descriptions, and work instructions, new demo content including best practice users, roles, and data that match the best practice processes.

The forms of all modules were standardized and improved views to support the defined practices were added.

The following supporting data was updated:

- Closure Codes – The probcause file has been updated with meaningful reasons for closing the record.
- Categories – Three levels of categorization are used. They determine the correct type of escalation for the interaction.
- Incident Status – accepted and pending change have been added to support the OOB workflows.
- SLA and SLO definitions to provide OLAs for Incidents and Problems, SLAs for customer Interactions.

A Help Desk user can no longer save a new interaction. It has to be either closed or escalated.

Interaction transition (escalation) to a new Incident will be in one of the three categories:

- Incident
- Request for Information
- Complaint

A Change that was opened through escalating an interaction will always be opened in the Default category.

The escalation wizard causes incident or change creation to occur in background and after completing the escalation process, it always returns to the current interaction.

## Smart Indicators

Smart indicators are identified by a new icon next to the relevant fields that are only active in Service Manager 7.1x when there is context-related content available. Pressing the button launches a wizard to display that content using the display action “runcontext”. The action calls a series of wizards beginning with “context”. Smart indicators on CI data add visualization to the content. Smart indicators are pre-defined for incident, interaction and known error and will be found on fields on the left-side of the form only.

## Knowledge Management

### Search within results

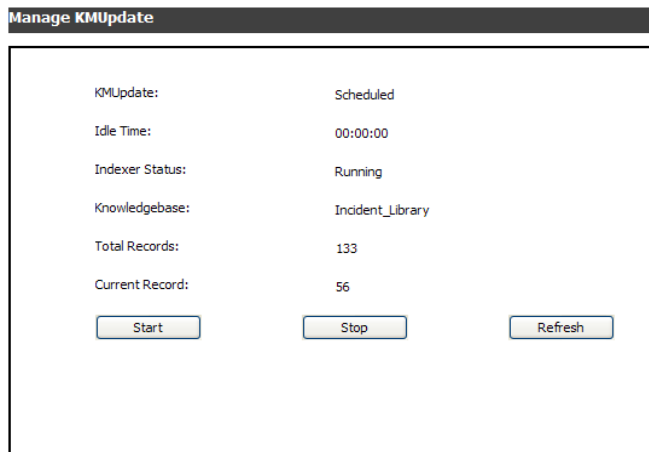
A new search within a result set to enhance the quality of knowledge content was introduced in Service Manager 7.10. After performing a search, check the Search in Results checkbox and enter a new search. For example, first search for Windows, then check Search in Results and search for bluescreen – only items that match both criteria will be returned.



### Enhanced search engine administration

We added the new ability to stop and restart indexing to improve resilience. The *Manage KMUpdate* menu item can be used by any KM Admin to start or stop the KMUpdate background process, rather than to have a SysAdmin perform that task.

Indexes are built in chunks of 500 records. Every 50 records, the indexing routine checks, if the stop button was clicked in the KMUpdate screen. If it detects a stop, it will stop the KMUpdate background process. Indexing will restart at the last sent but not committed document section (section of 500).



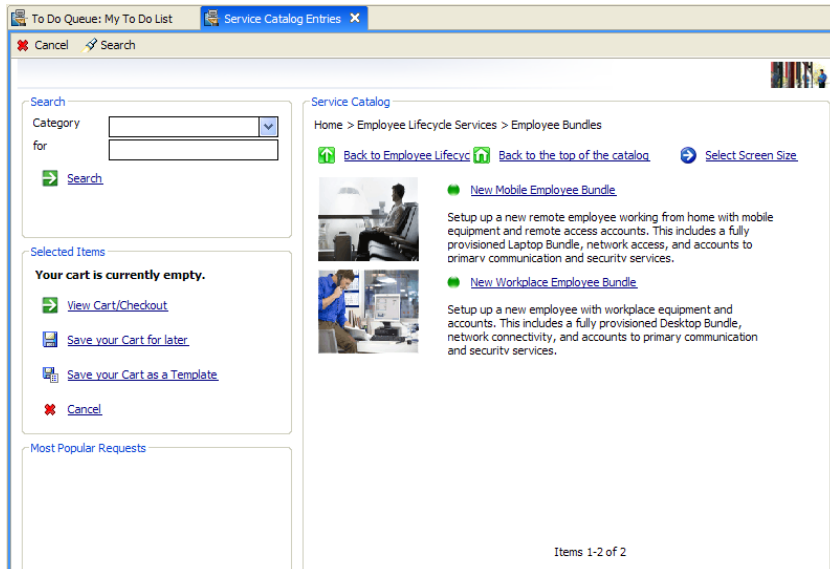
To enable the user performing the indexing to continue using his client, all indexing is done completely in background and the Search Engine updates Service Manager with status feedback. If the indexer encounters errors, these will show in the error tab in Manage Knowledgebase. Two new tables were added to the system to track the indexing progress:

- kmknowledgebaseupdates
- kmknowledgebaseerrors

## Service Catalog

### Redesign catalog screen layout

Catalog categories and items are now on the right side of the catalog forms.



In the order form, order information is now on top, the image on the bottom right

**New Mobile Employee Bundle**  
 Setup up a new remote employee working from home with mobile equipment and remote access accounts. This includes a fully provisioned Laptop Bundle, network access, and accounts to primary communication and security services.

<p><b>Order Information</b></p> <p>Requested for: <input type="text" value="Jennifer Falcon"/></p> <p>Quantity: <input type="text" value="1"/></p> <p>Unit Cost:</p>	<p><b>Bundle components</b></p> <ul style="list-style-type: none"> <li>(1) Standard Laptop Bundle</li> <li>(1) PC Backup</li> <li>(1) Employee Mailbox</li> <li>(1) Business Call from Home</li> <li>(1) Employee Remote Access</li> </ul>
<p><b>Attachments</b></p> <div style="border: 1px solid #ccc; height: 20px; width: 100%;"></div> <p><a href="#">Add to Cart</a></p> <p><a href="#">Back to Catalog</a></p>	<p><b>Image</b></p> <div style="border: 1px solid #ccc; height: 100px; width: 100%;"></div>

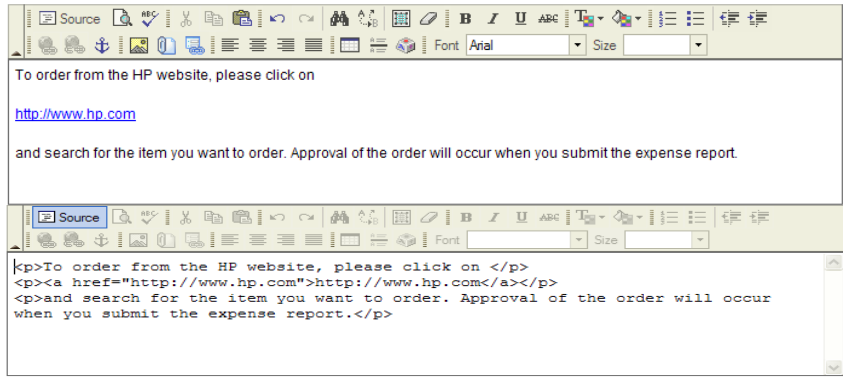
We added support for information-only items, such as links to external catalogs.

*Support requesting by service desk / first level support*

Any user can call the Service Desk to create a catalog request. The Service Desk then gathers all user information, and orders from the catalog for the user.

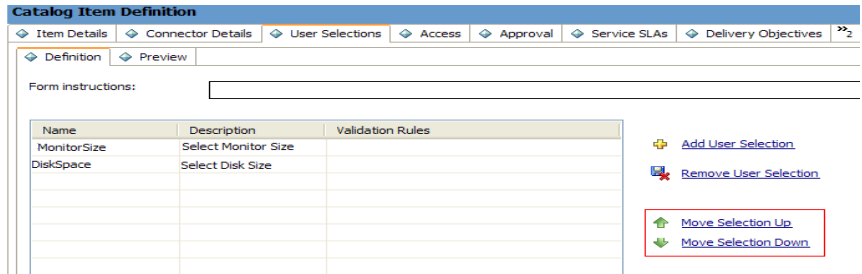
*Enable rich text descriptions of catalog items*

With Service Manager 7.10, catalog item detailed descriptions can be entered and stored in HTML format. They are entered with the provided HTML editor, so that the catalog administrator does not have to know HTML Syntax to enter the information.



*Ability to resort user selections in a catalog item*

In Manage Catalog, it is now possible to change the order in which user selection items appear in the catalog item, after they were already entered.

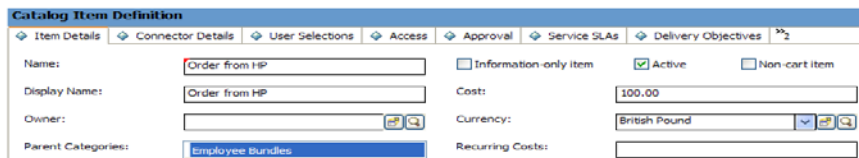
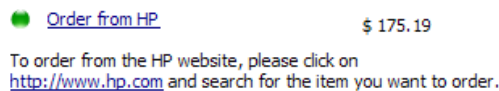


*Request dedicated subscription items more than once*

A dedicated subscription represents a subscription provided with a CI specifically assigned to the subscriber. It is a subscription to a physical CI that is not being shared by any other subscribers for example: Only one person can be subscribed to a laptop. With Service Manager 7.10 it is now possible to request two laptops and get dedicated subscriptions to both

*Enhanced multicurrency support*

Each catalog item can have a cost assigned to it in its own currency. The user ordering the item will see the cost in their operator's currency. E.g. if an item costs 100 British Pounds, an American user ordering it will see the cost as \$175.



*Multi-language / localization support*

To provide multi-language support, it became necessary to allow non-unique catalog item names. With the removal of the restriction to have a unique catalog item name, it is now possible to localize the catalog to multiple languages. To do so, create one catalog item per language. Users will only be able to search and see the catalog items in their language, or if no localized version of an item they have access to exists, they will see the English version. Use the Localize Catalog Items menu option to create / export / import localized versions of the catalog items.

**Miscellaneous Improvements**

Wizard templates were improved to support differently sized main forms for different screen resolutions.



It is no longer possible to create a new change request from within the WebServices based Change Calendar, just view existing change requests and update them.

SM70 applications are not compatible with SM7.10 server binaries. This does not affect the application upgrade.

### **Application Patch Manager (Service Manager 7.11)**

Provides application fixes bundled with a maintenance release and creates an easier and more efficient upgrade path

SM70 applications are compatible with SM 7.11 binaries.

## **Documentation changes**

Service Manager 7.11 documentation comes with the HP ITSM Best Practices Guide that explains best practices for the Interaction, Incident, Problem, Change, and Configuration modules and contains information on process flow, forms, key fields explaining “why”. This guide assists in demonstrating the value proposition to the customer.

## **Integrations and other changes**

### **UCMDB Integration**

Follow the Service Manager / UCMDB integration guide and enter the UCMDB web service URL in the Service Manager System Information Record on the active integrations tab:

```
http://<ucmdb_server>:8080/axis2/services/ucmdbSMSService
```

Reconciliation is done via the field name in the Discovery Event Manager (DEM) Reconciliation record. Field mappings for the integration between Service Manager and UCMDB are defined in the extaccess records starting with **ucmdb**. The UCMDB Scheduler needs to be used for scheduling replication jobs in UCMDB 8 and lower. The datastore Service Manager uses to get the actual state information from is defined in the following file:

```
<UCMDBServer>\j2f\fcmdb\CodeBase\ServiceDeskAdapter\webServiceAdapters.xml
```

```
<adapters>
<!-- The names of all the data stores that are defined in CMDB and should be
used for the SM web service should be listed here -->
<adapter name="ed" />
</adapters>
```

**Note:** To have Service Manager go to the UCMDB for actual state data rather than Enterprise Discovery remove the line  
<adapter name="ed" />

### **Additional changes in 7.11**

#### *Reporting*

Crystal Reports 2008 OEM is now included with Service Manager as part of the installer. Silent install from the SM installer is recommended to automatically install the license key. Crystal Reports currently requires the SC 6.2 ODBC driver and the port number of the legacy listener and ODBC connector must match. Additionally, Service Manager is shipped with 15 refactored operational reports

#### *Release Control Integration*

Now you can get the benefit of the RCA Change Calendar and decision support capabilities from within the Service Manager UI. Leverage RCA collision detection and impact and risk analysis data from within the Service Manager UI in Change Management workflows, view the RCA Change Calendar from within SM UI when doing troubleshooting from within Incident, Problem or Service Desk workflows, modify the RCA Change Calendar when doing change planning and assessment within Service Manager Change.

An unload that enables this integration is delivered within the RCA 4.12 package and the RC integration functionality is delivered on the SM Web Client only.

Refer to the release notes for more information on requirements for running the RCA integration with Service Manager 7.11

## Service Manager Version 7.0

The goal of Service Manager 7 was to combine the best of the Service Manager and ServiceDesk tools as well as align the ITIL processes around the support of business services. Highlights of the changes to Service Manager 7 are:

### *Service Life Cycle Management*

Service Lifecycle Management enables IT to support its customers by providing well defined services. Each service is clearly defined and catalogued; giving customers visibility into what IT can provide them. The entire life cycle of a service is supported, including phases for defining, publishing, requesting, fulfilling, maintaining, and supporting each service.

### *Usability enhancements*

HP Service Manager has several client and interface enhancements to improve usability and system performance.

### *Knowledge Management improvements*

Knowledge Management provides a feature-rich knowledge application that conforms to Knowledge-Centered Support (KCS) methodology and offers natural language searches, rich-text authoring, document change management or workflow, and knowledge management administration.

### *Change Management improvements*

Change Management controls the process to request, manage, approve, and control changes that modify your organization infrastructure. This includes assets, such as your network environment, facilities, telephony, and resources. Change Management automates the approval process and eliminates the need for memos, e-mail, and phone calls.

### *Self service improvements*

Self service enables any user to connect with a HP Service Manager application to request a service, provide information, or track previous requests. Self service users can also be granted approval capabilities that enable the user to approve change requests. Typically, this capability is given to high-level managers with a need to approve special requests but who have no need to use HP Service Manager on a regular basis.

### *Database administration changes*

The P4 data storage was removed. Service Manager installs out-of-box into any compatible RDBMS.

### *Web services changes*

Service Manager supports Web Services Enumeration, Transfer, and Addressing.

## **Architecture / RTE Changes**

### **Removal of classic mode**


With Service Manager 7.0 the so-called classic mode with Service Manager listeners does not exist any more. The only available mode is the servlet mode that enables both horizontal and vertical scaling.

### **Removal of P4 data storage**

Additionally, the P4 data storage layer was completely removed. On install, Service Manager can be loaded into any compatible database, such as Oracle, SQL Server or DB2. This change includes detecting changes you make to existing columns and data types in the back-end RDBMS and then automatically updating the database dictionary to match these changes after a system restart. Additionally the Service Manager server can push changes you make in the database dictionary to the back-end RDBMS, if the proper rights are set for the user on the RDBMS (create table, alter table for example).

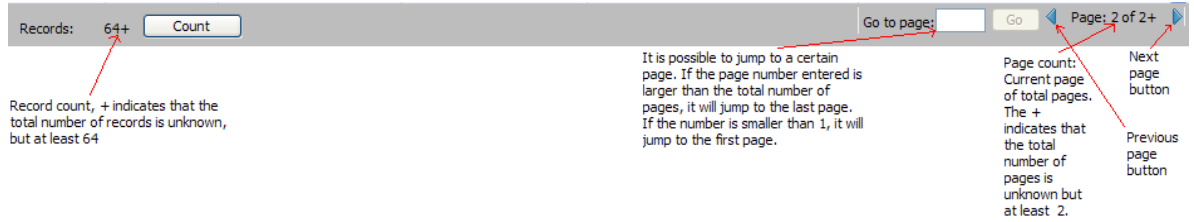
# Client Changes

## Improved Print

Users can print record lists and detail records from the Web client via the Print Form icon  or the Windows client via **File > Print**. It is no longer necessary to have a text print form, since the printout is dynamically generated based on the form displayed on screen. The improved print resolves issues of arrays being cut off at the end or the sides as well as adjusting the printout to the size of the medium dynamically. A print preview is available from both clients as well.

## Web Client Paging Control

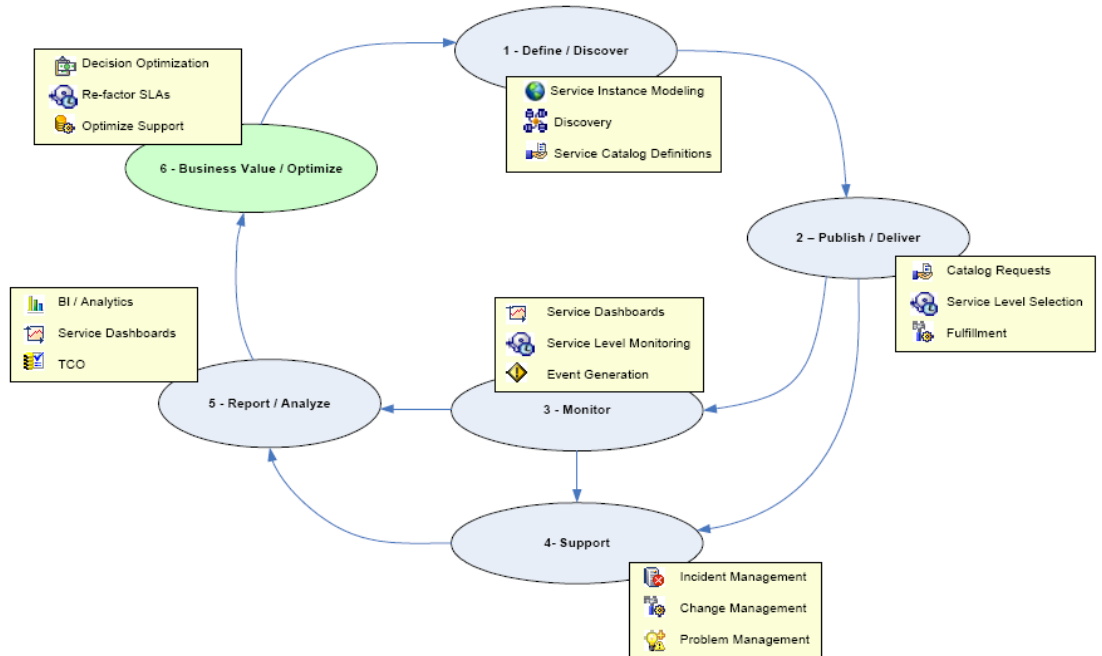
Paging through a QBE list on web clients was inconvenient because the next and previous page buttons were at the very end of the list and had to be scrolled to first, which resulted in a lot of scrolling to get to the end of a multi-page list. In Service Manager, the paging controls are between the detail and the list screens and are frozen in place, so that you do not have to scroll to the bottom of the list before being able to page.



# Application Changes

## Service Lifecycle Management

The following diagram shows the lifecycle processes and their related activities:



Service Lifecycle Management uses several Service Manager Modules. Customers can subscribe or unsubscribe from their Services using the Service Catalog. The Service subscription goes through the fulfillment engines such as Change Management or Request Management to provide the user with the requested service. When the customer requests support, the helpdesk agent will see the services they are subscribed to, and can narrow down which service is affected. Service Levels are measured and monitored by Service Level Management as defined in the service catalog.

*SLcM is based on ITIL v3 best practices*

The IT Infrastructure Library (ITIL®) is the world's most widely accepted approach to IT Service Management. ITIL provides a customizable best-practices framework for managing IT services at every phase of their lifecycle.

The evolution of ITIL mirrors the evolution of the corporate IT organization itself. ITIL v1 dealt with stability and control of the infrastructure, minimizing business disruption, and linking IT budgets with external benchmarks. ITIL v2 provided a pathway for moving IT to the next level, concentrating on the quality and efficiency of IT processes.

ITIL v3 reflects another significant step forward in IT's evolution. With IT now playing an important role in driving business results, ITIL v3 focuses for the first time on how IT can best provide value to the business, emphasizing the importance of leveraging technology to enhance that value. ITIL v3 recognizes that managing IT requires more than just a set of processes – it requires the ability to manage the complete service lifecycle. It also requires tighter integration of IT's people, processes and tools with a company's overall strategy and objectives.

ITIL v3 brings service management in line with changing business priorities, advancing technology and new governance models. Its principal objective is to speed and simplify the implementation, adoption and application of service management processes to optimize business outcomes. It states six fundamental strategies for achieving those objectives:

- Evolve from process management to lifecycle management
- Design services based on value
- Use lifecycles as the basis for investment decisions
- Recognize that functionality and manageability are basically the same thing
- Enable services using knowledge
- Treat infrastructure and service as a single entity

*ITIL's five service lifecycle stages*

ITIL v3 also articulates five principal stages of the service lifecycle:

- **Service strategy stage:** IT determines the unique value it can deliver to help differentiate the business in the marketplace. IT then works with the business to manage demand, determine markets, track finances, resolve resource trade-off issues, and ultimately decide what services to provide.
- **Service design stage:** IT develops a pragmatic service blueprint that balances functionality, performance and cost, while also making key sourcing decisions. Much of the previous service delivery processes from ITIL v2 remain in ITIL v3, including designing for availability, service continuity, continual improvement, and gathering feedback.
- **Service transition stage:** IT tests services and introduces them into the infrastructure in a controlled manner, according to clearly defined processes for change management, asset and configuration management, and knowledge management.
- **Service operation stage:** IT delivers and supports the services it has developed, preserving stability and uptime while maintaining flexibility and responsiveness to variations in the business and IT environments.
- **Continual service improvement stage:** IT monitors service performance and identifies ways to improve quality and reduce costs while staying aligned with changing business requirements.

### **Change Management**

- It is now possible to relate a change to a change. This can be used to show relationships between change records, such as when one change prompted another change, or when a project prompts multiple changes. A new history tab was added to the Change Management records. It is using the activity functionality, to record phase changes and monitor the relationships between change records.

### **Configuration Management**

*CI Visualization*

The CI Visualization application provides customers with a comprehensive visualization solution that enables increased productivity through the ability to easily visualize relationships between Configuration Item (CI) components and the current state of each item in the configuration. An extensive library of graphics displays the relationship in a variety of views. You can customize the views to fit your organization as described in the documentation section **Tailoring – Building a graph diagram**, including using your own graphics for display. You can view, add, or update relationships using the graphical interface of CI Visualization. The addition of CI Visualization meets ITIL® best-practices and enables you to manage resources and outages more effectively.

## **Knowledge Management**

Knowledge Management was improved to allow for adaptive learning and file and web crawling.

### *Adaptive Learning*

Adaptive learning is a feature of Knowledge Management where the system collects words or phrases used in searches that returned useful hits. A useful hit is specified by a document manually marked as useful or documents that were used as solutions for incidents, problems, or interactions. Knowledge Management increases the count each time these search words or phrases resulted in useful hits.

The useful count becomes a weighted value so that when a user performs a search using the same word or phrase, documents with higher counts for the word or phrase are returned higher on the hit list for the search.

KCS II or KCS III users are able to view the adaptive learning list. KM ADMIN users can edit the list by adding, deleting, or modifying words in the list or modifying the count.

### *Edit in Place*

Edit in place is an option that allows users to edit approved documents and then re-approve the document immediately for either internal or external use without sending the document to workflow. This allows users to update documents quickly that for some reason need to be updated and made available immediately.

The edit in place option is available for approved documents only. It does not apply to knowledge candidates such as working copies of a document or draft documents.

In the out-of-box system, the permission for edit in place is set for KCS II, KCS III and KM ADMIN Knowledge Management profiles. A user with a KM ADMIN profile manages assigning the edit in place permission to KM profiles.

### *File system crawling to create knowledgebases*

Using file system crawling, you can index and search external file systems, such as a document repository stored on a local network. The file system needs to be located on the same machine as the Service Manager server or mapped for the user under whom the HP Service Manager 7.00 server service runs.

If you have a large number of documents on a network drive that you need Service Manager users to search on, but you do not want to import them into Service Manager you can make these documents available as a knowledgebase with file crawling. File crawling will index the content of the files into the Search Engine and directly access the files when opened from a hit list.

### *Web crawling to create knowledgebases*

Using the web crawling feature, you can:

- Index and search external Web content, such as online documentation by Oracle etc.
- Index and search Intranet content, such as an internal Sharepoint site.

As with the file crawling capabilities, web crawling enables your Service Manager users to search external knowledge sources without having to import the information into Service Manager.

## **Changes to Self-Service-Ticketing**

As part of the new life cycle management, individual self-service users, or an entire department, can request subscriptions to various services listed in the Service Catalog.

Self-Service users can now be assigned a new menu that includes the ability to work with approvals. Higher level managers can then use the user friendly self-service interface to manage any approvals in their queues.

## **Administration Changes**

### *Security Folders*

Security Folders can be used to set user rights, such as create, update, or close on a record by record basis. Which rights are applied is determined based on the content of the folder field of the specific record. Security Folders combine benefits of Mandanten Security in that a subset of records can be restricted as well as Module Profiles in that the restrictions are to the view / create / update level.

Security Folders are globally enabled or disabled in the System Information Record and implemented on the application level. Available folders are defined in the FolderDef table. Security Folder rights are assigned to the operator via the module profile and are only available where module profiles are available. Each operator may have a default folder assigned in the operator record that is used for filling in the folder value on every ticket this operator creates.

### Views

Views and favorites enable you to define and save a query and replace the old inbox functionality. When you display the contents of a view or favorite, the query associated with it automatically runs and produces the list of records that meet the query criteria. Favorites appear in the System Navigator under Favorites and Dashboards. Views appear in most Service Manager queues. Whether you access the record list from Favorites and Dashboards, or a view from a queue, the list of records in each is identical.

You can create personal views or favorites if you have the user.favorites capability word in your profile. You can create system views or public favorites to share with other users if you have the public.favorites capability word in your profile. Service Manager stores favorites as unique records in the inbox table.

Views define not only the query (=Filter) used to select the list of records, but defines which fields to display in which sort order with which auto formatting rules as well. A sample view definition can be seen below:

**View Definition**

Name: Autoformat Date View  
 Table Name: probsummary  
 View Type: Table

---

View definitions | Query definition | Audience | Ownership

View Fields: Incident ID; Open Time; Previous Update Time; Sysmodtime; Update Time; Start Time; SLA Alert Time; Resolved Time; Close Time; Alert Time

Group By: [Empty]

Sort By: Update Time (ascending)

Filter: Off

Auto Format: **Autoformat**

Other: [Empty]

From navigator launch as:  
 Record list  
 View

**Autoformat**  
 Configure Autoformat Rules

Is Active	View Rules
true	Red if Update Time is on or before 12/29/00 15:40:29
true	Purple if Alert is on or after 01/03/01 10:30:11
true	Blue if the Previous Update time is between 03/08/01...

### Templates

Templates can be pre-created by a system administrator or created on the fly to enable Service Manager users to quickly open a new record in Change Management, Incident Management or Service Desk interactions. Default templates can be assigned to Change Management categories or via Incident or Service Desk Profiles. When pre-creating a template for one of the supported modules, the user is presented with a list of fields that are non-system fields and can enter information that should then be filled into the record on using the template.

## Template

Name:

Table name:

Authorized roles:


 [Refresh Fields](#)

Caption	Value
Acceptance Comments	
Account ID	
Account Type	
Actual Cost	
Actual Grade	
Actual Outage End	
Actual Outage Start	
Actual Price	
Actual Units	
Add Flag	true
Affected Dataset	
Affected Key Item	
Affected Library	
Agreement ID	
Approval Description	
Approved Estimate	
Asset Comments	
Asset ID	
Assets	

Which fields are non-system fields and which data entering mechanism should be used is defined in the data policy record for this table.

SQL Base Name:

Unique Key:

Default Format:

Prohibit Default Access

System Table?

Description:

Applications:

Area:

Record ID:

Field Name	Caption	Field Type	Usage Type	Available	Invisible	Read Only	Encrypt
approvals.req.seq	Approvals Sequence		System	true			
approvals.required	Approvals Required		System	true			
approve.desc	Approval Description	Multi-line Text	Application	true			
approved.action	Approved Action		System	true			
approved.dates	Approved Dates		System	true			
approved.groups	Approved Groups		System	true			
approved.oper	Approved By Operator		System	true			
approved.req.seq	Approved Sequence		System	true			
current.pending.groups	Current Pending Groups		System	true			
current.req.seq	Current Pending Sequence		System	true			
reviewer.class	Reviewer Class		System	true			
closing.comments	Closing Comments	Multi-line Text	Application	true			
completion.code	Completion Code		Application	true			
hours.worked	Hours Worked	Duration	Application	true			
contact.first.name	Contact First Name		Data	true			
contact.last.name	Contact Last Name		Data	true			

### *Multi-Item Select and mass add, update, delete*

Mass Update enables a user with mass update rights to update one or several fields in a set of records. In the past, mass updates only worked on the complete list of records. Starting with SM7, it is now possible to execute a query to narrow down the result and then fill the checkbox for all the records that need to be updated. When the mass update option in the menu is selected, the new template Mass Update is executed, where a template displays a list of fields that can be updated. The user enters a value for each field to be updated to complete the process on all selected records.

### *Advanced Find*

The advanced find capability can be found in every module search screen. It enables the user to search for any field in the table as well as fields in linked tables. A wizard guides the user through creation of the query statement. The query on fields in linked tables is done via a left outer join. For example, the query to search for all incidents where the assignment group manager contains "MANAGER" will execute the following:

```
SELECT file.alias01,*, file.alias02,wdManagerName AS
probsummary_assignment_assignment_name_assignment_wdManagerName FROM
probsummary alias01 LEFT OUTER JOIN assignment alias02 ON (
file.alias01,assignment = file.alias02,name ) WHERE ( index("MANAGER",
file.alias02,wdManagerName)>0 )
```

The information on linked files comes from the link record.

### *Changes to the Object record*

On the Object Info tab the assigned to info and workgroup info arrays were added to support the Folder security feature of giving update access only when the ticket is assigned to the operator.

A Search Configuration tab was added to fill the information on the more choices tab in the module search screens. These choices typically include searches such as is assigned to me, is open, is closed, etc. Having the query defined on the search configuration tab of the Object record makes it easier for the end user to find records that are relevant to him.

The Views / Templates tab determines under which circumstances a user can create views. A checkbox turns on template support for this Object and default template location gets defined.

## **ServiceCenter version 6.x**

The goal of the ServiceCenter 6.x release was to meet the needs of new and existing service management customers. ServiceCenter 6.x contains features that assist service desk operators, self-service users, technicians, administrators, and reporting analysts to complete service management tasks. It integrates ITIL support, complies with industry standards and best practices, and supports standard SOAP and XML protocols.

**ServiceCenter 6.0** takes advantage of new techniques in system management, enterprise integration, and user interfaces. It uses the latest Web-based technologies such as SOAP, DHTML, XML and HTTP to provide an open and secure platform that can share data with other enterprise systems. Other enhancements help end users, administrators, and application developers to:

- Increase user productivity
- Increase access to information
- Improve service delivery
- Enable you to deploy global systems

**ServiceCenter 6.1** enhances the baseline ServiceCenter 6 platform. The goal of this release was to:

- Expand the commitment to industry-standard technology.
- Improve out-of-box application workflows to drive down the total costs of tailoring the system.
- Align Service Management solutions with ITIL recommendations for best practices, including terminology and workflow processes for Service Level Agreements, Problem Management, and Configuration Management.
- Provide an employee self-service feature that enables users to open and track incidents through a streamlined Web interface.
- Enhance time zone support to simplify the way in which managed service providers (MSPs) track schedules.

**ServiceCenter 6.2** further enhances the ServiceCenter system with the goals to:

- Improve Security by adding standard encryption
- Improve Scalability by introducing the new servlet mode
- Introduce Release Management in compliance to ITIL recommendations



- Introduce a new Service Catalog to allow for more efficient access to end-user Services
- Introduce incorporated Knowledge Management to increase Help Desk efficiency
- Improve Configuration Management to be more closely aligned to business services

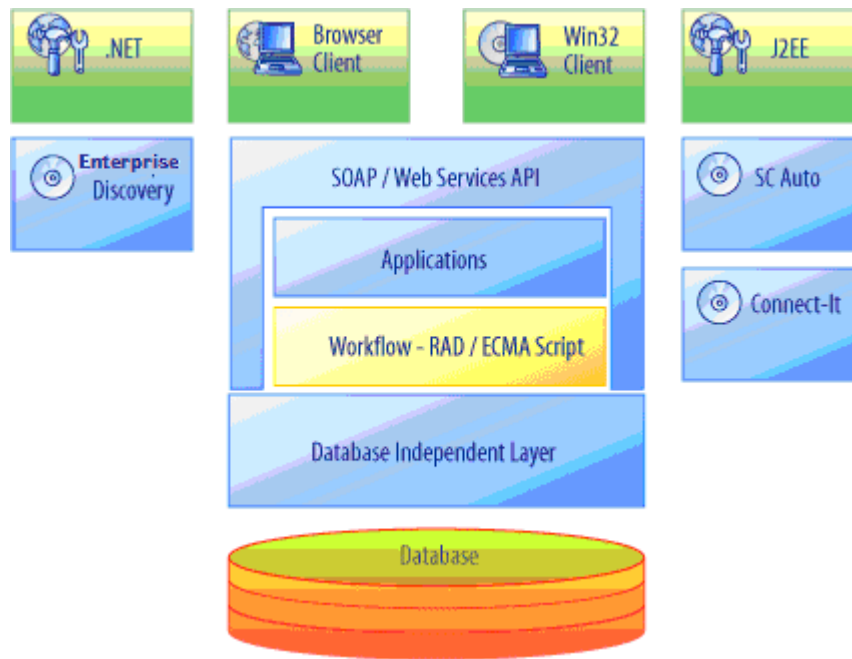
## New Architecture and technology

### ServiceCenter 6.0

Introduced new functionality in an evolutionary manner: It preserves the core functionality of previous versions.

There are key architectural components that are integral to understanding the HP ServiceCenter platform:

- The foundation is a database repository that contains all related files, tables, application code, business rules, and customizations. This database independent layer provides transparent support using either the out-of-box ServiceCenter P4 database or your own RDBMS. This layer connects the repository to the application layer using business rules defined with RAD or JavaScript.



- The Workflow layer is where ServiceCenter executes application logic and any related tailored business rules.
- The application layer consists of out-of-box ServiceCenter applications that can be tailored to meet your specifications. This layer processes data to track configuration items, incidents, and change requests.
- There is no difference in the way other HP Service Management products, such as Network Inventory, Desktop Inventory, SC-Auto, or Connect-It, integrate with ServiceCenter in your environment.
- The SOAP wrapper improves the way the server communicates with clients and other applications. The SOAP API is transparent for internal data exchange. If you want to publish ServiceCenter data to remote applications, SOAP supports the ServiceCenter Web Services publishing feature. SSL encryption helps ensure secure communications beyond your firewall.

### ServiceCenter 6.2

Offers a new server implementation option called a servlet implementation. A servlet implementation manages client connections using a pre-configured Java servlet that is embedded within ServiceCenter and does not require any installation or configuration of Java components, although a JDK has to be installed on the machine. The administration of a servlet implementation uses the traditional ServiceCenter configuration files and management procedures.

A servlet implementation provides the following benefits over a traditional ServiceCenter implementation:

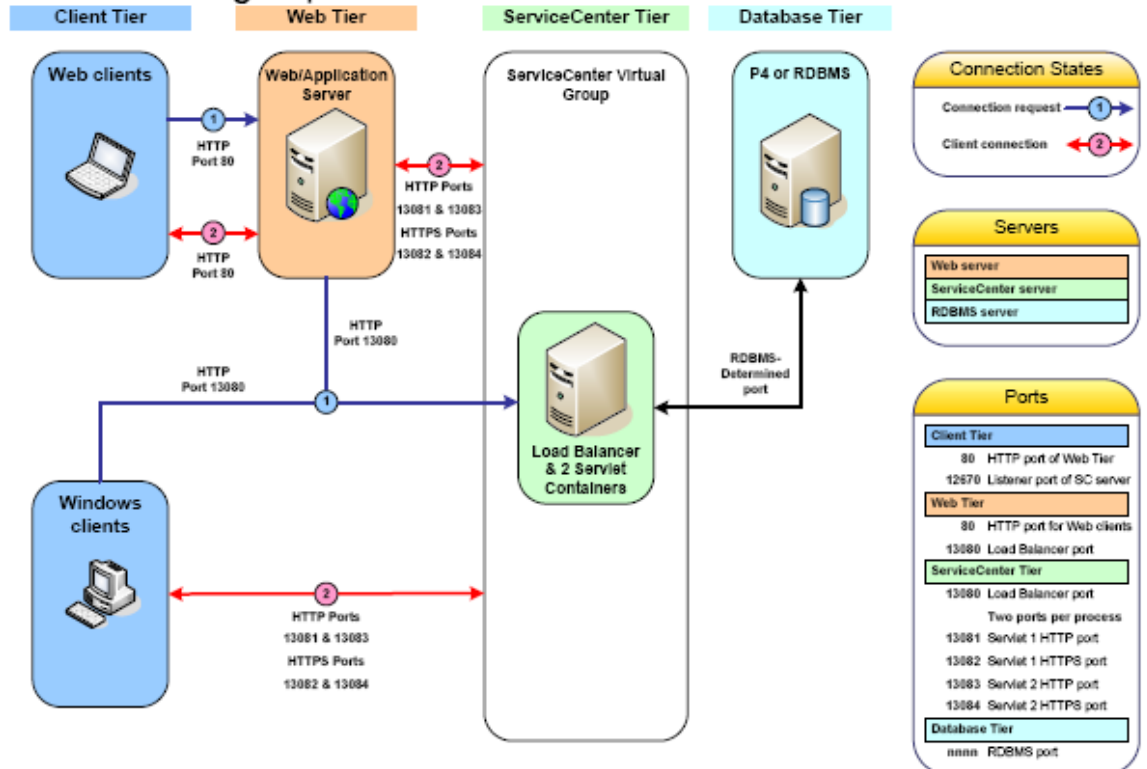
- The ability to specify the exact communications ports client connections use
- Requires fewer communications ports to manage client connections than a compatibility threading implementation
- The ability to specify the maximum number of client connections ServiceCenter will accept

- Improved resilience and scalability options

In a servlet implementation, administrators specify the communications ports the system uses in advance. The total number of communication ports required for a servlet implementation is based on the number of servlet container processes you want the ServiceCenter host to support. Each servlet container process manages a set number of client sessions as determined by the number of threads it contains. The number of communications ports required for a servlet implementation is significantly fewer than earlier 6.x implementations. This is an enhancement from past ServiceCenter versions where network administrators had to allow traffic from a large range of communication ports because each client connections required an operating system-defined "ephemeral port."

As shown in the picture showing a vertical scaling implementation, each servlet container process supports a set number of client connections over two communications ports, one for HTTP communications and one for HTTPS communications. Administrators set the number of client connections per process using the threading parameters. Now, two communications ports are sufficient for up to approximately 50 client connections (as determined by the ServiceCenter host's memory requirements).

## Vertical Scaling Implementation Connection States



A servlet implementation is ideal for administrators who want to do capacity planning and system resource management. The communications port and threading parameters allow administrators to control the resources that client connections consume. By specifying the communication ports and number of threads available for client connections, administrators can set a limit on the total number of client connections any one hardware resource supports. Setting connection limits prevent client connections from consuming more system resources than desired and allows administrators to set a server load threshold in advance. If a client attempts to connect to a ServiceCenter system that has reached its connection limit, the server refuses the connection and displays an error message that the server is unavailable.

Certain servlet implementations benefit from the native resilience and scalability features of grouping Java servlets. In a horizontal scaling implementation, administrators can create virtual groups of multiple servers simply by adding entries to the ServiceCenter configuration file. Each member in the virtual group communicates its connection availability and system resource usage to the other members of the group. Should a group member fail, the other group members are unaffected by the outage and the system can route any new client connection requests to another member in the virtual group. If the client connection routing process fails, the existing client connections are unaffected and an administrator can restart the client connection routing process. This is an enhancement over the Load Manager implementation from previous versions of ServiceCenter where a failure of the Load Manager member could result in a total system outage.

## Compliance and use of industry standards

ServiceCenter offers compliance with industry standards and best practices. ServiceCenter compliance ensures that you have a standard methodology for consistently delivering IT services so that you meet your business objectives and the needs of your user community.

ServiceCenter adheres to the accepted standards for these technologies:

- Accessibility standards: 1998 Amendment to Section 508 of the Rehabilitation Act
- Direct Internet Message Encapsulation (DIME): Enables a Web Service that efficiently handles multiple attachments such as encrypted messages, graphics, and Electronic Data Interchange (EDI) documents.
- GNU zip (gzip): A compression utility for SOAP messages that use encoding.
- Hypertext Markup Language (HTML) version 4.01 recommendation by the W3C
- Java 2 Platform, Enterprise Edition (J2EE™)
- JavaScript standards defined by the European Computer Manufacturing Association (ECMA)-262
- Microsoft® Windows Installer (MSI)
- Simple Object Access Protocol (SOAP) version 1.2 recommendation by the W3C
- Unicode™ version 4.0.0 specification defined by the Unicode Consortium

### ITIL

The Information Technology Infrastructure Library (ITIL) is a compilation of best practices for managing IT services that was developed by the United Kingdom's Office of Government Commerce (OGC). ITIL defines a framework and a process methodology that have become a global standard. ITIL is the only comprehensive, non-proprietary, and publicly available guide for IT service management (though other organizations provide fee-based professional services, analysis, and other support for implementing a fully compliant IT management system).

Pink Elephant® is a consulting organization with headquarters in Canada. They certify an organization's compliance with and adherence to the best practices described by ITIL. ServiceCenter has been certified as compatible with ITIL objectives and standards.

The Pink Elephant definition of compatibility requires that ServiceCenter comply with 100% of the ITIL mandatory requirements and 80% of the recommended requirements for Incident Management, Problem Management, Change Management, and Configuration Management processes. In addition, ServiceCenter has the additional certification of ITIL Service Support Enhanced because it complies with a more extensive set of criteria.

ServiceCenter 6.1 incorporates application improvements to Problem Management (formerly Root Cause Analysis), Service Level Management, and Configuration Management (formerly Inventory Control Management) to ensure that out-of-box application workflow and terminology are compliant with ITIL best practice recommendations.

### JavaScript support

The ServiceCenter platform has traditionally offered a rapid application development (RAD) development environment and expression language for customizing ServiceCenter applications. ServiceCenter now enables those users with system tailoring responsibilities to use JavaScript to customize applications.

JavaScript is a powerful, well known, widely supported, and standardized object-oriented scripting language. Because it is a standardized programming language, many books, tutorials, sample scripts, and other resources are widely available.

Administrators can use JavaScript expressions and routines to define business rule triggers, validations, and other data processing operations. JavaScript support provides ServiceCenter customers with a flexible and powerful development environment that decreases implementation and learning costs.

### SOAP

ServiceCenter uses SOAP messaging to publish tables as Web Services, and to transmit application data such as login authentication and record information to SOAP clients. ServiceCenter supports the W3C SOAP 1.1 and 1.2 recommendations, and formats all SOAP messages as XML documents that adhere to the W3C Web Services standards and conventions. While SOAP supports a variety of communications protocols, ServiceCenter uses Hypertext Transfer Protocol (HTTP) and HTTP Secure (HTTPS) exclusively.

ServiceCenter offers extensibility through a published SOAP API that enables developers to integrate ServiceCenter with other enterprise applications to meet your business needs. The SOAP API is accessible using any language that supports SOAP, including Microsoft .NET and Java.

ServiceCenter offers the following SOAP functionality out-of-box:

- Compatible SOAP clients
- Web client
- Windows client

The ServiceCenter Web and Windows clients automatically send and receive all application messages as SOAP messages. However, you can also connect to the ServiceCenter server using a third-party SOAP client.

- SOAP messaging options include:
  - HTTP transmission from a built-in Web server
  - SSL encryption for greater security
  - Gzip compression for efficiency
  - DIME encoding for adding attachments to messages
- Web Services support includes:
  - The ability to send requests to external Web services from ServiceCenter applications using JavaScript
  - The ability to publish ServiceCenter applications or individual tables as Web Services. (Requires a SOAP API license.)

### **UTF-8 (Unicode™) support**

UTF-8 is part of the Unicode standard, which enables you to encode text in practically any script and language. ServiceCenter 6 supports UTF-8 as an encoding method for new and existing data. It can support multiple languages that adhere to the Unicode standard on the same server.

Prior to Unicode, languages were grouped into sets often referred to as Latin 1 (Western European languages such as French and German), Latin 2 (Eastern European languages such as Czech, Polish, and Slovak), Latin 5 (Turkish), and so on. The English language uses characters that are included in all these groups. Earlier versions of ServiceCenter support multiple languages only within a single language group. Therefore, a single server instance could support French and German, English and Turkish, and English and Japanese; but not Turkish and Czech, nor Polish and Japanese. The ability to display data in many different languages from a single server is helpful to any ServiceCenter user who has an international customer base.

Consider the following points to ensure successful Unicode support:

- Carefully read the ServiceCenter documentation regarding UTF-8 support, and follow all the steps that describe the conversion to UTF-8.
- Ensure that any mapped RDBMS is correctly configured for UTF-8 support. For more information, consult with your local database administrator.
- In ServiceCenter 6.0, do not use a pre-ServiceCenter 6 client because it does not support UTF-8 encoding. With ServiceCenter 6.1, client versions previous to ServiceCenter 6 are not able to connect.

With ServiceCenter 6.2 on-demand UTF-8 conversion was implemented to allow large customer implementations to perform their upgrade in a timely manner.

### **XML**

Extensible Markup Language (XML) is a flexible text format that has its origins in the Structured General Markup Language (SGML). Although it was conceived as a way to support large-scale electronic publishing, XML has evolved into a global data interchange language that is highly compatible with the Internet. The World Wide Web Consortium (W3C) has the responsibility to develop and maintain XML specifications and other related specifications. XML is generally accepted as a common data interchange language. For more information about XML, see the W3C Web site at <http://www.w3.org/>.

ServiceCenter generates and reads well-formed XML documents that can be exchanged with ServiceCenter using the SOAP API.

### **Runtime Environment (RTE) enhancements**

ServiceCenter version 6.0 introduced the following enhancements to the runtime environment:

- JavaScript support for application developers, and an active CMDB solution with a public SOAP interface (ServiceCenter 6.1).
- Support for UTF-8 (Unicode), which enables data storage in many languages, including those that use double-byte character sets. In the past, ServiceCenter ran only one code page at a time for a set of related languages. ServiceCenter 6.x supports multiple language sets on the same server by using a UTF-8 code page.
- Architecture improvements include increased scalability, accelerated response time, and attachment handling.
- Introduction of the new SOAP interface. You can publish Web Services in ServiceCenter 6.0. In ServiceCenter 6.1 you can publish and consume Web Services.

- Starting with ServiceCenter 6.0, the IR (Information Retrieval) files can be stored in a file within the database. IR Expert is a word search engine that can be integrated with all ServiceCenter modules where users can quickly find related records by entering a few keywords. The internal `scirexpert` file replaces the previously external `ir.<filename>` files, so that they can become part of the normal database backup process.

To take advantage of this change, all IR files will have to be regenerated after upgrading to ServiceCenter 6.x. ServiceCenter 6.1 includes an optional parameter that allows the administrator to choose between using external or internal IR files.

- Shared libraries on UNIX®: Formerly, UNIX-based systems supported only specialized executables, while Windows systems used shared libraries. Starting with ServiceCenter 6.1 ServiceCenter supports shared libraries for any supported RDBMS that runs on a UNIX operating system.
- Previous ServiceCenter versions used SQL Server® native client libraries. Since ServiceCenter 6.0 ServiceCenter uses the SQL Server ODBC driver to ensure full Unicode support.
- Previous versions of ServiceCenter used the Sybase® DB-Library interface. Since ServiceCenter 6.0 we use the CT-Library and DB-Library™ interfaces.

Additional enhancements introduced with ServiceCenter 6.1 contain:

- With ServiceCenter version 6.1 you can enable multithread processing on the ServiceCenter server to support multiple user connections from a single Windows process. The new multithread processing capability supplements the existing multiprocessing capability and can be used in conjunction with it.

Multithread processing greatly improves the performance and scalability of ServiceCenter on Windows servers. Multithread processing also improves system performance and optimizes memory usage.

- User license tracking allows you to track floating and named licenses on the application level for reporting purposes.
- Secure Sockets Layer (SSL) encryption is available for all ServiceCenter 6.x client-to-server communications.
- ServiceCenter 6.1 automatically copies any stack trace produced by a general protection fault (GPF) to the ServiceCenter log file. You can use this information to troubleshoot your server and to pass information to HP Customer Support.
- Starting with the ServiceCenter 6 SOAP API it is now possible to publish data through a Web Service when you create a client application to query that data. Your client application determines how your external user community can access this ServiceCenter data. The functionality for publishing a Web Service is fully integrated into the server software. However, designing and developing the client application to query the Web Service is an independent activity.

With ServiceCenter 6.1 you can both publish and consume external Web Services. The functionality to publish a Web Service is fully integrated into the server software. You can design and develop client applications to query published ServiceCenter data independently.

ServiceCenter 6.2 introduces these enhancements to the ServiceCenter RTE:

- Servlet Mode – using JGroups provides a more scalable solution compared to classic mode. Servlet containers can be used for horizontal or vertical scaling, the ephemeral port issue is solved and SSL connections now use java keystores.
- On-demand UTF-8 conversion was implemented by adding a new option, thus eliminating system outages during upgrades.
- Encryption of configuration file settings provides more security for password information stored in the `sc.ini` file (such as for RDBMS connections and LDAP connections). Most `sc.ini` parameters may be encrypted.
- ServiceCenter Password encryption: The ServiceCenter server now encrypts all operator passwords stored on the database using a SHA512 one-way encryption process that cannot be decrypted. ServiceCenter clients use a two-way encryption process (PBE with MD5 and DES) to secure operator passwords when communicating with the server.
- Multi-threaded processing on Windows OS was introduced in SC 6.1. As of ServiceCenter 6.2, you can now enable multithread processing on servers running compatible Unix operating systems as well.

## Client enhancements

### Accessibility

When Section 508 became an addendum to the Rehabilitation Act of 1973, it required United States federal agencies to make electronic and information technology usable by anyone with a disability. The ServiceCenter Web client meets this requirement.

The Web client provides support for accessibility. When software contains these accessibility features, assistive technology vendors can customize the look-and-feel of the software to support non-visual presentation with audio or other devices. ServiceCenter users can configure the interface to meet their special needs when they apply third-party assistive technology tools.

ServiceCenter version 6.0 introduced the following enhancements to the ServiceCenter client:

- The Windows and Web clients have new interface components that support new functionality. Both have a new look and feel with enhanced navigation, and both offer access to necessary information through tree view navigation, charts, dashboards, and personalized folders with favorites. The Java client no longer exists.
- The new Web client is scalable, and has the ability to support global users securely. It is a server-based, zero-footprint client that requires only a Web browser on the end-user side. The Web client provides a similar look and feel, and complete access to the same information, as the Windows client. Because the Web client is server-based, users always access the latest updates when they log in. No special formats are required.
- The Windows client has the ability to access client updates from a centralized location upon login without reinstalling the client.
- Charts and dashboards are new in ServiceCenter 6.x. Charts are graphic representations of all types of ServiceCenter data, and you use charts to create dashboards.
- The Connections dialog was introduced for the Windows client with ServiceCenter 6. It allows you to define multiple client/server connections using the Connections dialog. On the Web client you still have to create URL links to multiple server connections, and then save them as Web browser favorites or desktop shortcuts.
- Inboxes and Favorites are new in ServiceCenter 6.x. Favorites enable quick access to queries, charts, and dashboards. ServiceCenter 6.1 adds inbox functionality to the Favorites feature to make inboxes more accessible. All the inboxes that you can access appear in the Favorites folder. You can save new queries, charts, and dashboards to create additional favorites.
- Perspectives are new in ServiceCenter 6.x. A perspective contains one or more views, and perhaps an editor, that provides all of the data and tools you need to complete a ServiceCenter task. ServiceCenter has a default perspective that is standard for accessing ServiceCenter forms and data. You can create custom perspectives to define your own user environment.
- Preferences, like Perspectives, are a new feature in ServiceCenter 6, related to the introduction of the Windows client platform. You can customize the way you view the Windows client by changing settings in Preferences dialog.
- The System Navigator introduced in ServiceCenter 6 provides quick access to ServiceCenter resources, such as applications, folders, files, records, and forms, in addition to the classic menu structure.
- The Views feature introduced in ServiceCenter 6 displays editors, displays system information outside the editor, and provides alternate ways to access forms.
- Windows printing support was introduced with ServiceCenter 6. You click the print icon on the Editor toolbar to use standard Windows printing. A print preview is available as well.
- The spell checker included in the ServiceCenter 6.x Windows client uses the Wintertree Software Spelling Checker. You can customize spell checking options and build a custom dictionary. The ServiceCenter Web client uses any spell checker that is embedded in the Web browser.
- The Client Packaging Utility for ServiceCenter clients version 6 and higher allows you to configure and customize a single ServiceCenter Windows client installation, repackage the image into a new installation, and redeploy it to your entire user community.
- The ServiceCenter Help Server is a new feature with ServiceCenter 6.x. It enables you to create a single documentation repository that all users can access.
- The new Update Site utility feature in ServiceCenter 6.x creates a central location where you can search for, download, and install new and updated features.
- Debuggers: Starting with ServiceCenter 6 you can use the RAD Debugger for RAD applications, and the Advanced Debugger for JavaScript components.

Enhancements in the ServiceCenter 6.1 client include:

- With ServiceCenter 6.1 administrators have a separate plug-in that consolidates many administrative activities into a single installable component.
- Database navigation improved in ServiceCenter 6.1 by allowing common database tasks and utilities from the System Navigator.
- Exporting a text file from the Web client is a new enhancement in ServiceCenter 6.1
- The System Definition Utility that is included with ServiceCenter 6.1 is a graphic view of existing table elements and properties, and a quick way to define new tables. It enables you to accomplish the tasks traditionally handled by the Dbdict utility.

- The Field Help Editor, new in ServiceCenter 6.1, enables administrators to access, add, and edit field help from the System Definition Utility.
- With ServiceCenter 6.1 you can access trigger records through the System Definition Utility.
- Trusted sign-on is a new feature in ServiceCenter 6.1. You can enable users to log on to ServiceCenter automatically using the same authentication information they use to log on to their operating system or network.

With ServiceCenter 6.2, the following enhancements were introduced:

- It is now possible to import CSV (comma separated value) files
- The Web client can now integrate with Computer Telephony Integration (CTI) applications
- New Forms Designer Objects: Dynamic form, HTML Editor, HTML Viewer, Web preview

## Application Enhancements

ServiceCenter version 6.0 introduced the following enhancements to its core functionality:

- The Service Delivery component of Service Management supports self-service incident reporting and tracking. With this change the functionality of Get-Services was integrated with Service Management directly via the Web employee self-service (ESS) client.
- The new ERD Creation Utility in ServiceCenter 6 allows administrators to generate an entity relationship diagram (ERD) easily. The ERD Creation Utility generates DDL output from any system that ERwin® can read. It maps relationships that are automatically defined inside ServiceCenter applications, and it can map manually defined relationships.
- Graphic Workflows are new in ServiceCenter 6.x. It is a visual representation of defined phases for Change Management and Request Management. In ServiceCenter 6.1 the workflow was added to Problem Management as well.
- In ServiceCenter 6.x new capability words were added to support new features, and existing capability words were enhanced to expand required permissions:
  - public.favorites enables users to create, edit, or remove public favorites.
  - user.favorites enables users to create private favorites.
  - chart.breakdown enables users to create charts from record lists.
  - Existing capability words were organized into a logical hierarchy of permissions.
- Scheduled Maintenance exception models were added to ServiceCenter 6.x. Exception models support more precise maintenance schedules that include weekends and holidays.
- With the help of the Differential Upgrade Utility you can identify differences between systems after development activities, and then unload the changes and move them to a new system. You can still monitor a limited set of tables using the Development Audit Utility.
- With ServiceCenter 6 you can use JavaScript expressions anywhere that you use a RAD expression. ServiceCenter supplies out-of-box JavaScript examples. You can add new JavaScripts or modify existing JavaScripts.

Additional changes in ServiceCenter 6.1 include:

- End users will see changes to the way in which they use Service Level Management and Problem Management (formerly Root Cause Analysis), including modified forms and a modified work flow. Service Level Management now uses Service Level Objectives to allow more flexibility in the assignment of times for resolution, as well as more flexible alerting. Problem Management now allows tasks and more flexible alignment of Problem Control and Known Errors.
- With ServiceCenter 6.1 you can define a system-wide default time zone and date format in the company record. Individual operator records can contain individual time zone values that override the system-wide default time zone.
- A web-service based Change Calendar was introduced that allows for scheduling of changes and tasks with a user-friendly interface.

ServiceCenter 6.2 introduced:

- The Knowledge Management module replaces Get-Answers. It integrates seamlessly out-of-box with Service Desk, Incident Management and Problem Management. It is using Autonomy's Verity K2 Search Engine, but administration is done from within ServiceCenter.
- Release Management was implemented as a Change Management category. It can be used to ensure that changes to the assets in the CMDB are deployed successfully in the least disruptive manner.
- The Service Catalog is a front-end to use by end-users to order from the catalog of services. An interaction will be opened for each shopping cart containing one or many items. The interaction can then be approved by a ServiceCenter user and fulfillment records (typically change or request management records, service desk interactions or a request to a third party via Web Services) will automatically be created.
- CI visualization (6.2.1)
- Get-Answers migration to Knowledge Management in ServiceCenter 6.2 (6.2.1)

- IR migration to Knowledge Management in ServiceCenter 6.2 (6.2.1)
- Import support for xml documents available in Knowledge Management for ServiceCenter 6.2 (6.2.1)

## Documentation Enhancements

ServiceCenter version 6.x introduced the following enhancements to its product documentation:

- With ServiceCenter 6.x, documentation is now available in an embedded online Help system. Starting with ServiceCenter 6.1, role-based ServiceCenter documentation plug-ins simplify tailoring the end-user Help view. You can customize Help topic files to match customized applications. Field-level help describes individual fields on a form.
- All but a few documents are now available online via the ServiceCenter client. The following documents are still available in PDF format:
  - ServiceCenter 6.x Accessibility Guide
  - ServiceCenter 6.x Database Conversion and RDBMS Support Guide
  - ServiceCenter 6.x Installation Guide
  - ServiceCenter 6.x Rapid Application Development (RAD) Guide
  - ServiceCenter 6.x ReportCenter Guide
  - ServiceCenter 6.x Report Writer Guide
  - ServiceCenter 6.x Upgrade Guide

## Summary of upgrade features

ServiceCenter 6 offers new features and functionality, improved technology, and a new Web client interface.

Upgrading to ServiceCenter 6.0 enables you to:

- Use a zero-footprint Web client interface for remote access. The new Web tier supports the Web client and ensures platform portability.
- Use ServiceCenter Web Service features to publish ServiceCenter applications and data as Web Services. You can add ServiceCenter compliance to your enterprise Service Oriented Architecture strategy.
- Encrypt data exchanged between client and server using industry-standard Secure Sockets Layer (SSL) encryption.
- Use ServiceCenter UTF-8 Unicode support to combine characters from any character set or locale in the same ServiceCenter database.
- Tailor applications with JavaScript.
- Simplify navigation with an improved Windows client interface.
- Improve access using System Navigator tree navigation.
- Access files, fields, keys, and forms quickly in the System Definitions area of the System Navigator.
- Link to frequently-used queries, applications, and forms with favorites.
- Visually organize data with charts and dashboards.
- View a graphical workflow for Change Management and Request Management.
- View field-level Help topics on forms.
- Customize online Help.
- Configure and deploy a customized version of ServiceCenter with the Client Packaging Utility. You can add branding, or design a single configuration for all users.
- Make new and updated features available using an Update Site.
- Access Forms Designer from the System Navigator.
- Use task-specific debuggers: RAD Debugger for RAD panels and Advanced Debugger for JavaScript.

ServiceCenter 6.1 enhances the baseline platform with a focus on usability, feature enhancements, and quality. Upgrading to ServiceCenter 6.1 enables you to:

- Use an enhanced Web Services API for user-designed Web Service applications.
- Consume and publish Web Services.
- Updated trusted sign-on capability.
- Use enhanced JavaScript support to tailor applications.
- Use an enhanced Forms Designer to create and modify ServiceCenter forms.
- Improve performance with enhanced scalability.
- Improve performance by using Multi-threaded mode on Windows clients.



- Troubleshoot problems using the XML editor view to analyze client/server traffic.
- Install the Admin plug-in to consolidate administrative tasks, tools, and views.
- Use the ITIL-compliant Problem Management application with graphical workflow to replace Root Cause Analysis.
- Manage Service Level Agreements (SLAs) using the ITIL-compliant enhancement for Service Level Management.
- Use the SLA support integrated into Change Management (requests and tasks), Incident Management, Problem Management (problems and tasks), and Service Management to gather availability and response metrics.
- Use Configuration Management components with ITIL-compliant names to replace non-ITIL Inventory Management terminology.
- Use the HP Service Center Web Services API, which is a component of the HP ServiceCenter Active CMDB solution.
- Use self-service ticketing (SST) in Service Management to enable external users to request services through the Web client.
- Simplify work scheduling with improved time-zone support.
- Simplify table and form management with the System Definition Utility.
- Use enhanced chart and dashboard functionality to manage business data.
- Use the redesigned capability word permission model to simplify assigning permissions.
- Use the Manage Favorites feature in the Web client to copy, move, or delete favorites.
- Access inboxes and favorites directly from Favorites folder in the System Navigator.
- View enhanced field help for new tables and forms when you access related applications.
- Use shared libraries for any supported RDBMS that runs on a UNIX operating system, which reduces the size of executable files and the amount of memory required.

ServiceCenter 6.2 enhances the ServiceCenter setup and use. Upgrading to version 6.2 enables you to:

- Scale the ServiceCenter implementation to the individual customer's need
- Circumvent the ephemeral port issue using ServiceCenter in servlet mode (number of ports to open through the firewall = (number of servlets \* 2) + 1 )
- Use standard encryption of operator passwords both on the database backend and over the net
- Have users search knowledge and order from the catalog of services for one-stop-shopping
- Make release changes more efficient with the new Release Management tool

## ServiceCenter version 5.1

ServiceCenter 5.1 extended core asset management features to the service desk to help an enterprise run its IT department like a business. Managers are under increasing pressure to do more with fewer resources because of decreased budgets and other constraints. By containing costs, you can drive down the cost of providing services. ServiceCenter 5.1 can help you consolidate and simplify your infrastructure by providing better tools for better business decisions. It enables you to consolidate Service Management and Asset Management disciplines into a single robust infrastructure management tool.

Using ServiceCenter 5.1, you can:

- Use Service Level Agreements and charge-backs to add value.
- Provide a portfolio of services to the business unit at a competitive price.
- Run your IT department like a business.
- Adopt ITIL-recommended best practices to meet the increasing emphasis on ITIL standards that increase efficiency and reduce redundancy.
- Deflect security threats with a coordinated response, defined escalation, and notification process.
- Determine immediately what your assets are, and where they are, as protection against security threats.
- Use change management processes to ensure that you deliver timely repairs and patches.

Whether your concern is software license compliance, maximizing your investments, mitigating risks, improving employee productivity, or adding value to your own customers, ServiceCenter 5.1 can provide increased value to your organization.

## Enhancements to ServiceCenter 5.1

ServiceCenter 5.1 extended HP Service Management market leadership by providing an ITIL-compliant service management solution with inventory configuration management capabilities. ServiceCenter 5.1 includes core contract and financial information in the service desk, which helps an enterprise run its IT department like a business.

New management of asset-based contracts including warranties, service contracts, and leases helps you manage assets from a service perspective. This enhancement gives the service delivery organization more effective and streamlined control of the complex and often confusing paper trail associated with an IT infrastructure.

### **Enhancements to the runtime environment (RTE)**

- ServiceCenter version 5.x introduced the following enhancements to the runtime environment:
  - The System Information Record (info.company) has new features:
  - Ability to set Multi-Company mode here instead of using the login.default format control
- Visibility of integration displayoptions
- Changes to the Joinfile enable you to add, update, and delete.
- Structured array enhancements include searching against fields in structured arrays. Fields in structured arrays can be part of keys, and can be mapped to Attribute tables and Unique Attribute tables.
  - The RTE creates and maintains Attribute tables and Unique Attribute tables automatically.
  - Attribute tables contain the data for the structured arrays in all records in the main table.
  - Unique Attribute tables contain one record for each unique combination of fields defined in the table.
  - The Attribute table contains only those fields that are not part of the Unique Attribute table. For example, the Attribute table contains only a foreign key link.
- The RAD command line now appears in the client and is available in all application windows. The operator record controls access to the command line. Individual viewing options control command-line visibility.

### **Application enhancements**

ServiceCenter 5.1 has new tools such as wizards that simplify common tasks. Wizards are development tools that increase system effectiveness and usability by creating uniformly formatted scripts that guide users through activities. You can create a wizard to automate almost any data entry process in ServiceCenter, such as setting up a contract. Wizards are simpler than ServiceCenter scripts, but very powerful.

The Cascade Update Utility enables you to maintain database consistency and integrity by modifying the data in dependent files to match changes made to data in a source file.

ServiceCenter supports third-party plug-ins that function as low-level extensions of the ServiceCenter platform. They permit tight data and process integration between ServiceCenter and external automation or data sources. For example, you might use a plug-in to authenticate users or populate ServiceCenter records. You can call plug-ins with:

- A trigger
- A format control
- A link record
- A script
- Display options
- The Document Engine

There is also tighter integration between Network Discovery and Desktop Administration in ServiceCenter 5.1.

### *Inventory Configuration Management*

Inventory Configuration Management (ICM) provides better system navigation, using wizards to add or change upstream and downstream devices (configuration items). ICM now reflects out-of-box device categorization. Improvements to ICM include:

- A schema and form redesign
- Integration into the Document Engine
- An update to the Document engine to use Joinfile support, which enables you to search attribute and device files for an asset record.

The Assets Contract Management module enables you to:

- Add or edit assets and contracts.
- Associate assets with contracts.
- View or modify software installation information, including software license compliance.
- View or modify service level agreements, including leases, maintenance, software, support, and warranty contracts.

### *Service Level Management*

Service Level Management (SLM) combines Contract Management and SLA Management to ensure the highest level of support at the lowest possible cost. The Service Level Management (SLM) module provides a centralized repository of SLM information, and is fully integrated into the ServiceCenter suite of applications.

SLM automatically recalculates Service Level Agreement (SLA) performance. SLM uses availability and response metrics to chart a graphic display.

### *Scheduled Maintenance*

Scheduled Maintenance enables you to track parts, labor, and associated contracts, and provides a detailed estimate of costs associated with preventive maintenance tasks.

### **Java client enhancements**

The ServiceCenter 5.1 Java client introduced Section 508 compliance enhancements, which improves the individual user experience regardless of accessibility requirements. The Java client enables users to set user preferences for keyboard access, font, and color selections, and increases support for third-party accessibility applications that can be used with ServiceCenter.

The Java client offers language support for simplified Chinese, traditional Chinese, French, German, Japanese, Korean, Polish, and Turkish.

There were also enhancements to Java client performance in ServiceCenter 5.1.

### **Documentation enhancements**

All documentation for ServiceCenter 5.1 is available on a single CD-ROM that you can launch on any supported platform: Windows, UNIX, or Macintosh®. You can choose either HTML format for viewing with a Web browser, or PDF format where you can perform a comprehensive keyword search of the entire documentation suite.

The documentation CD-ROM also includes the ServiceCenter 5.1 physical data model (PDM) and its supporting entity and attribute information. The PDM is commonly referred to as an *entity relationship diagram*, or ERD. ERD is a data model that enables system administrators to understand the linkages within the out-of-box system.

## Appendix A: Product Comparison

The following table is a functional comparison of the features in ServiceCenter versions 5.x, 6.0, 6.1 and 6.2 and Service Manager 7.0, 7.1, 9.2, 9.3, and 9.4:

Process ↓	Service Manager/ServiceCenter Version →	9.4	9.3	9.2	7.1	7.0	6.2	6.1	6.0	5.x
<b>Application Level</b>	Application									
<b>Best Practice and Industry Standards support</b>	Out-of-box IT Infrastructure Library (ITIL) support	X	X	X	X	X	X	X	X	X
	Configuration Management (called Inventory Config Management through ServiceCenter 5)	X	X	X	X	X	X	X	X	X
	Service Management (Service Desk in 6.2)	X	X	X	X	X	X	X	X	X
	Incident Management	X	X	X	X	X	X	X	X	X
	Problem Management (called Root Cause Analysis through ServiceCenter 5)	X	X	X	X	X	X	X	X	X
	Known Error correlation	X	X	X	X	X	X	X	X	X
	Change Management	X	X	X	X	X	X	X	X	X
	Request Fulfillment (called Request Management through 9.34)	X	X	X	X	X	X	X	X	X
	Release Management	X	X	X	X	X	X			
	Service Level Management	X	X	X	X	X	X	X	X	X
	Service Level Agreement	X	X	X	X	X	X	X	X	X
	Service Contract Management	X	X	X	X	X	X	X	X	X
	Availability Management	X	X	X	X	X	X	X	X	X
	Service Life Cycle Management	X	X	X	X	X				
<b>Inventory Management</b>	Inventory Configuration Management	X	X	X	X	X	X	X	X	X
	Assets Contract Management	X	X	X	X	X	X	X	X	X
	Automated Inventory support	X	X	X	X	X	X	X	X	X
	Out-of-box Automated Inventory support	X	X	X	X	X	X	X	X	X
	Support for Business Services	X	X	X	X	X	X			
	Support for CI Groups	X	X	X	X	X	X			
	CI Visualization	X	X	X	X	X	X			

Process ↓	Service Manager/ServiceCenter Version →	9.4	9.3	9.2	7.1	7.0	6.2	6.1	6.0	5.x
	Integration with UCMDB	X	X	X	X					
	Support for Actual State and Managed State	X	X	X	X					
<b>Call Management</b>	Service Desk (called Service Management through SC 6.1)	X	X	X	X	X	X	X	X	X
	Linkage of Calls to Problems/ Incidents, Request, Changes, Calls	X	X	X	X	X	X	X	X	X
	Activity Records	X	X	X	X	X	X	X		
	Related Records	X	X	X	X	X	X	X	X	X
	Multi-Level categorization	X	X	X	X	X	X	X	X	X
	Document Engine support	X	X	X	X	X	X	X	X	X
	Diagnostic Aid Support	X	X	X	X	X	X	X	X	X
	Employee Self Service Interface	X	X	X	X	X	X	X		
	Integrated with Knowledge Management	X	X	X	X	X	X			
	Direct read-only access to the RC Change Calendar	X	X	X						
	Service Requests for end-users through SRC interface	X	X							
<b>Incident Management</b>	Incident Management	X	X	X	X	X	X	X	X	X
	Parent-Child Incident relationship	X								
	Major Incident	X	X (9.31+)							
	IR Expert	X	X	X	X	X	X	X	X	X
	Mass closure of incidents	X	X	X	X	X	X	X	X	X
	View associated calls within the Incident/Problem record.	X	X	X	X	X	X	X	X	X
	Close calls upon Incident/Problem closure.	X	X	X	X	X	X	X	X	X
	Activity Records	X	X	X	X	X	X	X	X	X
	Related Records	X	X	X	X	X	X	X	X	X
	Document Engine Support	X	X	X	X	X	X	X	X	X
	Diagnostic Aid Support	X	X	X	X	X	X	X	X	X
	Integrated with Knowledge Management	X	X	X	X	X	X			
	Direct read-only access to the RC Change Calendar	X	X	X						

Process ↓	Service Manager/ServiceCenter Version →	9.4	9.3	9.2	7.1	7.0	6.2	6.1	6.0	5.x	
<b>Knowledge Management</b>	IR Expert	X	X	X	X	X	X	X	X	X	
	Shallow search	X	X	X	X	X	X	X	X	X	
	Deep search	X	X	X	X	X	X	X	X	X	
	Complete match	X	X	X	X	X	X	X	X	X	
	Multi-Level Categorization	X	X	X	X	X	X	X	X	X	
	IR Solution retrieval based on categorization combinations.	X	X	X	X	X	X	X	X	X	
	Category	X	X	X	X	X	X	X	X	X	
	Sub-Category	X	X	X	X	X	X	X	X	X	
	Product Type	X	X	X	X	X	X	X	X	X	
	Problem Type	X	X	X	X	X	X	X	X	X	
	Diagnostic Aids	X	X	X	X	X	X	X	X	X	
	Adaptive / IR Learning and Ranking	X	X	X	X	X	X	X	X	X	
	Hot News	X	X	X	X	X	X	X	X	X	
	Common Problems	X	X	X	X	X	X	X	X	X	
	Error Messages	X	X	X	X	X	X	X	X	X	
	IR Queries	X	X	X	X	X	X	X	X	X	
	Get-Answers								X	X	X
	Increased navigation integration with ServiceCenter Diagnostic Aids								X	X	X
	Automated Get-Answers launch with ServiceCenter Login								X	X	X
	Knowledge Management module	X	X	X	X	X	X				
	Seamless integration with SD, IM, PM	X	X	X	X	X	X				
Adaptive Learning	X	X	X	X	X						
Web and File Crawling	X	X	X	X	X						
Stop and Restart indexing	X	X	X	X							
Scheduled indexing and error tab for troubleshooting	X	X	X	X							
Search within results	X	X	X	X							

<b>Process ↓</b>	<b>Service Manager/ServiceCenter Version →</b>	<b>9.4</b>	<b>9.3</b>	<b>9.2</b>	<b>7.1</b>	<b>7.0</b>	<b>6.2</b>	<b>6.1</b>	<b>6.0</b>	<b>5.x</b>
	Supports newest office and other file types (over 1200 different types)	X	X							
	Flexible Architecture with SOLR search engine	X	X							
	Scalable	X	X							
	High Availability	X	X							
	Separation of Search and Index Servers	X	X							
	Runs on same platforms as Service Manager	X	X							
	Simplified text based Thesaurus editing	X	X							
	Simplified Search Engine Management	X	X							
	File and Web Crawlers not chained to the Search Engine server	X	X							
<b>Problem Management</b>	<b>Problem Management</b> (called Root Cause Analysis in versions prior to 6.1)	X	X	X	X	X	X	X	X	X
	Major Problem Identification	X								
	Activity Records	X	X	X	X	X	X	X	X	X
	Related Records	X	X	X	X	X	X	X	X	X
	Document Engine	X	X	X	X	X	X	X		
	Root Cause Identification	X	X	X	X	X	X	X	X	X
	Known Error creation	X	X	X	X	X	X	X	X	X
	Known Error Correlation	X	X	X	X	X	X	X	X	X
	Root Cause and Known Error Phases	X	X	X	X	X	X	X		
	Presentation of Known Error workarounds to Service and Incident Management	X	X	X	X	X	X	X	X	X
	Integration with Knowledge Management	X	X	X	X	X				
	Root Cause and Known Error tasks	X (Classic mode)	X	X	X					
	Direct read-only access to the RC Change Calendar	X	X	X						
<b>Change Management</b>	<b>Change Management</b>	X	X	X	X	X	X	X	X	X
	Phase closing	X	X	X	X	X	X	X	X	X
	Prompt for open	X	X	X	X	X	X	X	X	X

Process ↓	Service Manager/ServiceCenter Version →	9.4	9.3	9.2	7.1	7.0	6.2	6.1	6.0	5.x
	Prompt for Update	X	X	X	X	X	X	X	X	X
	Open Phase and Exit	X	X	X	X	X	X	X	X	X
	Related Records	X	X	X	X	X	X	X	X	X
	Support for Batch Changes	X	X	X	X	X	X	X	X	X
	Best practice categories out-of-box									
	Request For Change					X	X	X	X	X
	Request For Change – Advanced					X	X	X	X	X
	Release Management	X	X	X	X	X	X			
	CI Group	X	X	X	X	X	X			
	Default	X	X	X	X					
	Hardware	X	X	X	X	X	X	X	X	X
	KM Document			X	X	X	X			
	Maintenance	X	X	X	X					
	Network	X	X	X	X	X	X	X	X	X
	Software	X	X	X	X	X	X	X	X	X
	Subscription	X	X	X	X	X				
	Unplanned Change	X	X	X	X					
	Normal Change	X (Codeless mode)								
	Standard Change	X (Codeless mode)								
	Emergency Change	X (Codeless mode)								
	Change Proposal	X (Codeless mode)								
	Support of Configuration Item Groups	X	X	X	X	X	X			



Process ↓	Service Manager/ServiceCenter Version →	9.4	9.3	9.2	7.1	7.0	6.2	6.1	6.0	5.x
	Document Engine Support	X	X	X	X	X	X	X	X	X
	Relate a Change to a Change	X	X	X	X	X				
	Activity support	X	X	X	X	X				
	Change Verification	X	X	X	X					
	Approval Delegation	X	X	X	X					
	Planning CI Relationship Changes from a Change Record	X	X (9.31+)							
<b>Request Fulfillment (catalog support)</b>	<b>Request Fulfillment</b> (back-end catalog fulfillment engine)	X	X	X	X	X	X	X	X	X
	Auto-fulfillment	X (Codeless mode)								
	Request Model	X (Codeless mode)								
	Request Queue	X	X	X	X	X	X	X	X	X
	Event Services support	X	X	X	X	X	X	X	X	X
	Related Records	X	X	X	X	X	X	X	X	X
	Customizable Catalog	X	X	X	X	X	X	X	X	X
	Out-of-box catalog choices/scenarios	X	X	X	X	X	X	X	X	X
	Integration with purchase requests	X	X	X	X	X	X	X	X	X
	Combination of multiple quotes	X (Classic mode)	X	X	X	X	X	X	X	X
	Re-order level defined by stock room	X	X	X	X	X	X	X	X	X
	Document Engine Usage	X	X	X	X	X	X	X	X	X
<b>Service Catalog</b>	Service Catalog	X	X	X	X	X	X			
	Self-Service ordering of items and bundles with possible images, adding to a shopping cart that will be fulfilled typically via change or request management									
	Catalog of Services available via ESS interface	X	X	X	X	X	X			
	Integrates with Request Fulfillment, Change Management, Incident Management, and Web Services, Service Desk	X	X	X	X	X	X			

Process ↓	Service Manager/ServiceCenter Version →	9.4	9.3	9.2	7.1	7.0	6.2	6.1	6.0	5.x
	Subscriptions	X	X	X	X	X				
	Multicurrency	X	X	X	X					
	Multi-language support	X	X	X	X					
	Line item based approvals	X	X							
	Web-based user interface through Service Request Catalog (SRC)	X	X	X (9.21+)						
	Easy tailoring of the checkout section from within Service Manager	X	X							
<b>Service Level Management (SLM)</b>	Service Level Management	X	X	X	X	X	X	X	X	X
	Automatic calculation of SLA performance	X	X	X	X	X	X	X	X	X
	Graphic display of availability and response metrics	X	X	X	X	X				X
	Define escalation thresholds	X	X	X	X	X	X	X	X	X
	Entitlement Checking	X	X	X	X	X	X	X	X	X
	Service Contract Management	X	X	X	X	X	X	X	X	X
	Service Level Agreements (SLA) and Contract Management were combined to create Service Level Management.	X	X	X	X	X	X	X	X	X
	SLA Configuration by Module	X	X	X	X	X	X	X		
	Flexible calculation of Escalations by using Service Level Objectives (renamed to Service Level Targets as of 9.40)	X	X	X	X	X	X	X		
	Outage spreading for Business Services	X	X	X	X	X	X			
	Service Lifecycle Management	X	X	X	X	X				
	OLAs for incident and change, SLAs for interactions	X	X	X	X					
<b>Technician Scheduling Management</b>	Work Management									X
<b>Change Scheduling Management</b>	Change Calendar application through Web Services API graphical representation of current and forward schedule of changes				X	X	X	X		
	Change Calendar through Release Control including Risk Analysis graphical representation of current and forward schedule of changes	X	X	X	X					

Process ↓	Service Manager/ServiceCenter Version →	9.4	9.3	9.2	7.1	7.0	6.2	6.1	6.0	5.x		
<b>Preventive Maintenance</b>	Scheduled Maintenance	X	X	X	X	X	X	X	X	X		
	Formalized Maintenance schedules	X	X	X	X	X	X	X	X	X		
	Integration to Service, Incident, Change, Request, Configuration Management	X	X	X	X	X	X	X	X	X		
	Scheduling of inventory based events/tickets	X	X	X	X	X	X	X	X	X		
	Scheduled Maintenance Exception Model	X	X	X	X	X	X	X	X			
	Track associated contracts, parts, and labor	X	X	X	X	X	X	X	X	X		
	Generate cost estimate of preventative maintenance.	X	X	X	X	X	X	X	X	X		
<b>Reporting &amp; Business Intelligence</b>	ReportCenter								X	X	X	
	Service Manager ODBC driver	X	X	X	X	X	X	X	X	X	X	
	Selection of Reports created in Crystal shipped with ServiceCenter instead of Report Center	X	X	X	X	X	X					
	Crystal Reports OEMshipped with SM	X	X	X	X							
	Refactored operational reports included with install	X	X	X	X							
	Reporting integration with the Westbury SMI tool	X	X									
	Executive Scorecard integration	X	X									
	Decision Center				X	X	X	X				
	BI Portal (replaced by Decision Center)									X	X	X
	SC Insight											X
	Dashboard						X	X	X	X		
	Service Manager Reports	X										
	Smart Analytics	X	X (9.34+)									
<b>Best Practice Reference Guide</b>	Service Wisdom										X	
	Best Practice offering (released separately)	X	X	X	X	X						
	Embedded ITIL v.3 processes with documented process flows	X	X	X	X							
<b>Employee Self-Service</b>	Self Service Ticketing integrated with Service Management via Web Client	X	X	X	X	X	X	X				

Process ↓	Service Manager/ServiceCenter Version →	9.4	9.3	9.2	7.1	7.0	6.2	6.1	6.0	5.x
Get-Services (replaced by Self-Service Ticketing)								X	X	X
Service Catalog available via ESS web client (replaces Get-Resources)		X	X	X	X	X	X			
Self-Service approvals		X	X	X	X					
Get-Resources (Replaced by Service Catalog)							X	X	X	X
Knowledge Management module for Self-Service KM		X	X	X	X	X	X			
Get-Answers (Replaced by Knowledge Management)								X	X	X
<b>Service Request Catalog</b>										
Service Catalog available		X	X	X	X					
Service Requests available		X	X							
Approvals and Approval Delegation available		X	X							
Service Subscriptions		X	X (9.31+)							
Support for Creating Custom Fields		X	X (9.31+)							
Built-in Applications Launcher		X	X (9.31+)							
Service Request Catalog for Tablets		X	X (9.31+ for Android devices and 9.33+ for iOS devices)							
Global Catalog Search		X	X (9.31+)							
Dynamic user options		X	X (9.32+)							
User Interface Customization		X	X (9.31+)							

Process ↓	Service Manager/ServiceCenter Version →	9.4	9.3	9.2	7.1	7.0	6.2	6.1	6.0	5.x
	Language support for Arabic and Hebrew	X	X (9.32+)							
	Enhanced Look-up Fields	X	X (9.32+)							
	Upgrade Tool	X	X (9.32+)							
	Support for IPv6, Common Access Cards (CAC), and Federal Information Processing Standards (FIPS)	X	X (9.32+)							
<b>Base Utilities</b>	Importing	X	X	X	X	X	X	X	X	X
	Printing	X	X	X	X	X	X	X	X	X
	Clocks	X	X	X	X	X	X	X	X	X
	Macros	X	X	X	X	X	X	X	X	X
	Views (Inboxes up to ServiceCenter 6.2)	X	X	X	X	X	X	X	X	X
	License Checking	X	X	X	X	X	X	X	X	X
	Module based license reporting	X	X	X	X	X				
	Notification Engine	X	X	X	X	X	X	X	X	X
	On-call groups	X	X	X	X	X	X	X	X	X
	Multi-Company Support	X	X	X	X	X	X	X	X	X
	Central User Administration Utilities						X	X	X	X
	Consolidated Queues and In-boxes	X	X	X	X	X	X	X	X	X
	Settings in System Information Record (info. company)									
	Availability of Integration display options	X	X	X	X	X	X	X	X	X
	Set multi-company mode	X	X	X	X	X	X	X	X	X
	Revision Tracking added to Tailoring Utilities	X	X	X	X	X	X	X	X	X
	Differential Upgrade Utility	X	X	X	X	X	X	X		
	Java Script used for Tailoring	X	X	X	X	X	X	X		
	Consultant In a Box								X	X

Process ↓	Service Manager/ServiceCenter Version →	9.4	9.3	9.2	7.1	7.0	6.2	6.1	6.0	5.x
	Possibility to set and use time zones on record level	X	X	X	X	X	X	X		
	Advanced Filter over linked tables with Left Outer Join	X	X	X	X	X				
	Templates	X	X	X	X	X				
	Security Folders	X	X	X	X	X				
	To Do Overview	X	X	X	X	X				
	Application Patch Manager	X	X	X	X					
	Localization Utility for boolean and drop-down data	X	X	X						
	Wizard guided tailoring of the SRC checkout section	X	X							
	Enhanced Inactivity Timer Mechanism	X	X (9.32+)							
	HTML Email notifications	X	X (9.32+)							
	Service Manager Survey	X								
	Entity Relationship Diagram utility	X								
	Missing Reference Report utility	X								
	Relationship Manager	X								
<b>Process Designer</b>		X	X							
	Workflows, security groups shipped for Knowledge Management	X	X							
	Out-of-Box Rule Types available	X	X							
	Workflows, security groups available for Change Management (requires patch from HP Live Network)	X	X							
	Workflows, security groups available for Help Desk (Service Desk, Incident, and Problem; requires patch from HP Live Network)	X	X (9.31+)							
	Task planner	X	X							
<b>Upgrade Utilities</b>										
	Revert functionality	X	X (9.31+)							
	Possibility of using third-party visual 3-way merge tools for manual conflict resolution	X	X (9.31+)							

Process ↓	Service Manager/ServiceCenter Version →	9.4	9.3	9.2	7.1	7.0	6.2	6.1	6.0	5.x
	Added support for multi-run and multi-language select capability.	X	X (9.31+)							
	Added "Mass Mark as Reconciled" and "Mass Choose Upgrade" functions to help perform conflict resolution.	X	X (9.31+)							
	Upgrade / Migration assessment tool	X	X							
	3-way merge functionality with auto-merge capability	X	X							
<b>Common Client Capabilities</b>	Dynamic GUI	X	X	X	X	X	X	X	X	X
	Display screen and format name	X	X	X	X	X	X	X	X	X
	Multiple Document Interface (MDI)									X
	Cascade Window support									X
	Form specific tool bars	X	X	X	X	X	X	X	X	X
	Calendar Widgets	X	X	X	X	X	X	X	X	
	Record List/Document View	X	X	X	X	X	X	X	X	X
	On-screen timer object	X	X	X	X	X	X	X	X	X
	Windows Authentication Support	X	X	X	X	X	X	X	X	X
	Spell Checker	X	X	X	X	X	X	X	X	X
	Automatic record list in the GUI	X	X	X	X	X	X	X	X	X
	Search/Find capabilities within GUI fields	X	X	X	X	X	X	X	X	X
	RAD command line appears in all application windows, depending on operator record setting.	X	X	X	X	X	X	X	X	
	Tree Navigation	X	X	X	X	X	X	X	X	
	Automatic Update are possible.							X	X	X
	Charts and Dashboards	X	X	X	X	X	X	X	X	
	Printing with Print Preview	X	X	X	X	X	X	X	X	
	Hover Subforms to display virtual join information	X	X	X	X					
<b>Java Client</b>	Dynamic loading of attachments									X
	Browser support of Internet Explorer and Macintosh									X

<b>Process ↓</b>	<b>Service Manager/ServiceCenter Version →</b>	<b>9.4</b>	<b>9.3</b>	<b>9.2</b>	<b>7.1</b>	<b>7.0</b>	<b>6.2</b>	<b>6.1</b>	<b>6.0</b>	<b>5.x</b>
	ServiceCenter Explore for navigation									X
	“Favorites” for navigation features									X
	Suspend session support									X
	Bookmarks									X
	Support for Windows XP									X
	Support for JDK 1.3 and Java Plug-ins									X
	Support for Netscape 6									X
	Telephony support									X
	Forms Designer									X
	GUI Debugger									X
	Section 508 compliance features									X
	Language support for Chinese, French, German, Japanese, Korean, Polish, Thai, and Turkish									X
<b>Web Client</b>	Same look and feel and access as Windows Client					X	X	X	X	X
	Zero-footprint client	X	X	X	X	X	X	X	X	X
	Export to Text File	X	X	X	X	X	X	X		
	Spellchecker on multi-line text fields		X	X	X	X	X			
	Computer Telephony Interface	X	X	X	X	X	X			
	Import of CSV file	X	X	X	X	X	X			
	Employee Self Service Interface (ess) available	X	X	X	X	X	X	X		
	Self – Service Approval access	X	X	X	X	X				
	Improved paging control	X	X	X	X	X				
	Collapsible sections	X	X	X						
	MySM dashboard		X	X						
	Workflow Editor for Process Designer	X	X							
	Enhanced Web Client Session Management to Prevent Data Loss (Allows only one client session in the browser)	X	X							
			(9.31+)							



Process ↓	Service Manager/ServiceCenter Version →	9.4	9.3	9.2	7.1	7.0	6.2	6.1	6.0	5.x
	HP Service Manager Collaboration (SM Collaboration)	X	X (9.31+)							
	Recordlist improvements for performance and usability	X	X (9.31+)							
<b>Windows Client</b>		X	X	X	X	X	X	X	X	X
	Admin Plugin	X	X	X	X	X	X	X		
	System Definition tool to combine DBDICT, Datapolicy and other functionality	X	X	X	X	X	X	X		
	Perspectives, Views, Preferences	X	X	X	X	X	X	X	X	
	Spellchecker on multi-line text fields	X	X	X	X	X	X	X		
	Computer Telephony Interface	X	X	X	X	X	X	X	X	X
	Advanced Debugger to debug both RAD and Java Script					X	X	X	X	
	RAD debugger	X	X	X	X	X	X	X	X	X
<b>3270 Client</b>										X
<b>Mobility Client</b>	Available for all Webkit based browsers	X	X							
	Localization support	X	X (9.31+)							
	Available for iOS, Android, and Blackberry operating systems	X	X (9.32+)							
	Language support for all SM languages except Arabic and Hebrew	X	X (9.32+)							
	Support for up to 1000 concurrent users	X	X (9.32+)							
	Tailoring capability	X	X (9.32+)							
	Wider support for approval types	X	X (9.32+)							
	Quick search	X	X (9.32+)							

Process ↓	Service Manager/ServiceCenter Version →	9.4	9.3	9.2	7.1	7.0	6.2	6.1	6.0	5.x
	Support for SSL, TSO, and LW-SSO	X	X (9.32+)							
	IPv6 Support	X	X (9.32+)							
	FIPS-compliant	X	X (9.32+)							
	Mobile client for Incident Analysts	X	X							
	Mobile client for Change Approvers	X	X							
<b>Run Time Environment (RTE) Level</b>										
	Shared Mandanten	X	X	X	X	X	X	X	X	X
	FrameRestore to DDE Advise	X	X	X	X	X	X	X	X	X
	Secure Password support	X	X	X	X	X	X	X	X	X
	Network Encryption	X	X	X	X	X	X	X	X	X
	Tracing of Triggers	X	X	X	X	X	X	X	X	X
	Quiesce	X	X	X	X	X	X	X	X	X
	Database Monitor Parameters	X	X	X	X	X	X	X	X	X
	Monitoring of File Locks	X	X	X	X	X	X	X	X	X
	Monitoring of File Updates	X	X	X	X	X	X	X	X	X
	QBE List: sort, add, delete on the fly	X	X	X	X	X	X	X	X	X
	Dynamic SQL Mapping	X	X	X	X	X	X	X	X	X
	Multi-lingual Client/Server Deployment	X	X	X	X	X	X	X	X	X
	File Attachments	X	X	X	X	X	X	X	X	X
	OLE Container									X
	Support for Microsoft Clusters	X	X	X	X	X	X	X	X	X
	Global Locking in SC Distributed Network							X	X	X
	Increased Pool Size: Up to 35 ServiceCenter Database files with 2 GB each							X	X	X

Process ↓	Service Manager/ServiceCenter Version →	9.4	9.3	9.2	7.1	7.0	6.2	6.1	6.0	5.x
	Removal of 32K limit for P4 database record						X	X	X	X
	Event Services processing of inbound attachments	X	X	X	X	X	X	X	X	X
	Version Dependency eased – Client/Server separated						X	X	X	X
	Server control of client parameters	X	X	X	X	X	X	X	X	X
	Option for case insensitivity of the P4 database						X	X	X	X
	ODBC Level 2 query compatibility	X	X	X	X	X	X	X	X	X
	Extended functionality in ServiceCenter DBUTIL						X	X	X	X
	Alert Log for monitoring ServiceCenter performance	X	X	X	X	X	X	X	X	X
	Single Sign-on (interfacing with SiteMinder®, TAM, and other third-party applications.)	X	X	X	X	X	X	X		
	Trusted Sign-on	X	X	X	X	X	X	X	X	X
	IR Learning	X	X	X	X	X	X	X	X	X
	Field Level Encryption	X	X	X	X	X	X	X	X	X
	Load Manager						X	X	X	X
	Structured Arrays	X	X	X	X	X	X	X	X	X
	Search against fields	X	X	X	X	X	X	X	X	X
	Fields can be part of keys.	X	X	X	X	X	X	X	X	X
	Fields can map to Attribute tables and Unique Attribute tables.	X	X	X	X	X	X	X	X	X
	Joinfile changes: add, update, delete	X	X	X	X	X	X	X	X	X
	UTF-8 support	X	X	X	X	X	X	X	X	
	On-demand UTF-8 conversion	X	X	X	X	X	X			
	SOAP API / Web Services Interface	X	X	X	X	X	X	X	X	
	REST API / Web Services Interface	X	X							
			(9.32+)							
	IR files may be stored internally or externally.						X	X	X	
	ServiceCenter dependency on P4 database files removed.	X	X	X	X	X	X	X	X	
	P4 data storage layer removed	X	X	X	X	X				
	Multithreading support on Windows	X	X	X	X	X	X	X		

Process ↓	Service Manager/ServiceCenter Version →	9.4	9.3	9.2	7.1	7.0	6.2	6.1	6.0	5.x
	Stack trace generation to the log file upon GPF	X	X	X	X	X	X	X		
	Multithreading support on Unix	X	X	X	X	X	X			
	Servlet Mode implementation	X	X	X	X	X	X			
	Elimination of the ephemeral port issue	X	X	X	X	X	X			
	Better scalability and performance	X	X	X	X	X	X			
	Encryption of configuration file (sm.ini) parameters	X	X	X	X	X	X			
	One-way encryption of operator password in database	X	X	X	X	X	X			
	Two-way encryption of password fields from client to server	X	X	X	X	X	X			
	Fast counters available (batch retrievable of counters for a counter record)	X	X	X	X					
	Fast numbers available (batch retrievable of numbers for a number class)	X	X	X	X					
	Scheduled recycle of sm processes	X	X	X						
	Support for Windows 2008 ASLR	X	X	X						
	Virtual Join record set improvements to return limited amount of data	X	X							
	Runtime license information stored in central table	X	X							
	Multiple module licenses covered in one round trip, instead of multiple in Horizontal Scaling.	X	X							
	Using Autopass or AutopassJ for licensing	X	X	X	X	X				
	Using a hardware load balancer for distributing the load from external webservices applications	X	X	X	X					
	Debug node servlet allows for Servlets within group that are not part of the software load balancer distribution	X	X	X	X	X	X			
	Case insensitivity support for Oracle RDBMS	X	X	X						
	Session Creation Within SM processes are parallel, minimum serialization	X	X							
	Embedded Tomcat on Server uses JRE 1.5				X	X	X			
	Embedded Tomcat on Server uses JRE 1.6		X	X						
	Embedded Tomcat on Server uses JRE 1.7	X	X (9.31p2+)							
	Hardware load balancer support	X	X (9.32+)							
	Lock Management refactoring	X	X (9.31+)							

Process ↓	Service Manager/ServiceCenter Version →	9.4	9.3	9.2	7.1	7.0	6.2	6.1	6.0	5.x
	Dynamic Debugging of User Sessions or Schedulers	X	X (9.31+)							
	Upgrade to LW-SSO v2.5 (Server and Web Tier)	X	X (9.31+)							
	FIPS 140-2 (level 1) Compliance	X	X (9.32+)							
	Common Access Card (CAC) Sign-On	X	X (9.32+)							
	Support for primary keys and not null constraints	X	X (9.32+)							
	IPv4/IPv6 Dual Network Support	X	X (9.32+)							
	Performance improvements on cross table join queries	X	X (9.32+)							
<b>Stability Improvements</b>	Export to Excel requires less memory	X	X							
	Java Heap usage is greatly reduced by eliminating the reconstruction of XML in java code	X	X	X						
	Native side XML Generation consumes about 30% less memory	X	X	X						
	User Sessions poll for inactivity and can be killed by the admin	X	X	X						
	Alternate Signal Stack Improvements, process no longer crashes due to out of stack memory, only the thread is affected	X	X	X						
<b>JavaScript Improvements</b>	JavaScript functions to support SELECT column and SORT BY column	X	X							
	JavaScript function to purge a large number of records	X	X							
	JavaScript traced with rtm debugging	X	X							
	LOG4JS ScriptLibrary added for more detailed debugging messages	X	X							
	Java-based scemail solution with support for HTML email	X	X							
<b>Diagnostic improvements</b>	Diagnostic counters	X	X							
	Scheduled shutdown and / or restart of single Servlets or Servlets on one machine or whole group	X	X	X						
	Memory Monitoring: Java Heap Memory monitoring (all Platforms), Native Heap Memory monitoring (Windows)	X	X	X	X					

Process ↓	Service Manager/ServiceCenter Version →	9.4	9.3	9.2	7.1	7.0	6.2	6.1	6.0	5.x
	At termination of each thread memory consumed by thread is reported	X	X	X						
	When debugleaks:1 parameter is provided, summary of memory leaks is reported in the sm.log	X	X	X						
	Memory usage is reported at every 5M intervals by default, large responses over 1M are reported to the log file by default.	X	X	X						
	sm_stdout_stderr.log is created for each process and all errors reported to console are captured	X	X	X						
	SM Doctor troubleshooting tool	X	X (9.32+)							
<b>Integrations</b>										
	Web Services integrations	X	X	X	X	X	X	X		
	REST based web services for internal integrations only	X	X	X						
	Connect-It integrations	X	X	X	X	X	X	X	X	X
	SCAutomate integrations	X	X	X	X	X	X	X	X	X
	Integration with Desktop Administration					X	X	X	X	X
	Integration with Network Discovery / Desktop Inventory(DDMi)	X	X	X	X	X	X	X	X	X
	Integration with BAC	X	X	X	X	X	X			
	Integration with RC	X	X	X	X	X				
	Integration with UCMDB	X	X	X	X	X				
	Integration with OMi	X	X	X						
	Integration with OO	X	X	X	X					
	Integration with PPM	X	X	X	X	X				
	Integration with QC	X	X	X	X	X				
	Integration with SiteScope	X	X	X	X	X	X			
	Integration with Asset Manager (AssetCenter)	X	X	X	X	X	X	X	X	X
	Integration with third party Survey tools	X	X (9.32+)							
	Integrated LWSSO	X	X							
	Part of CCRM Solution	X	X	X	X					
	Part of CLIP Solution	X	X	X	X	X				


Process ↓	Service Manager/ServiceCenter Version →	9.4	9.3	9.2	7.1	7.0	6.2	6.1	6.0	5.x
Part of SACM Solution		X	X	X	X					
SM-BSM Downtime Synchronization		X	X (9.31+)							
UCMDB Integration Enhancement		X	X (9.31+)							
Case exchange between Service Manager or with Service Anywhere		X								
<b>Documentation</b>										
Service Wisdom										X
Help Desk processes										X
Change Management Professes										X
Problem Management Processes										X
Online and downloadable documentation		X	X	X	X	X	X	X	X	X
Adobe Acrobat Reader® global search										X
Physical Data Model (PDM)										X
PDF and HTML formats		X	X	X	X	X	X	X	X	X
Documentation distributed with Client							X	X	X	
Centrally stored Documentation on a Help Server		X	X	X	X	X	X	X	X	
Best Practices documentation		X	X	X	X					
Tailoring Documentation in PDF format		X	X	X	X					
Interactive ERDs with documentation			X	X						
Interactive document generation feature		X	X							
Converted and added the major supplemental materials to a new “Guide and Reference” section		X	X (9.32+)							
Added user role hub pages, to connect user roles to the specific tasks they may have to complete		X	X (9.32+)							
Added hub pages for all the major processes (Knowledge Management, Change Management and so on)		X	X (9.32+)							





Sign up for updates  
[hp.com/go/getupdated](http://hp.com/go/getupdated)

 Share with colleagues

 Rate this document

---

© Copyright 2016 Hewlett-Packard Development Company, L.P. The information contained herein is subject to change without notice. The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.  
Trademark acknowledgments, if needed.  
January 2016

