Business Unit MR

CS LayoutManagerService

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*Approver (Accountable): Component Engineer Manager*

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# Introduction

## Purpose

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| INFO 94935  Rev: 1  **✓** | Purpose  Model: [All] FS: [All] GS: [] Options: [] Quality Attributes: [] Type of Test: [Development Test]  Signatures: Signed by: Srikanta, Ashwin (310227903) on 2025-06-20 09:05:55 Meaning: QA Approved - (QA)::Bulk Transitions Signed by: Channakeshava, Chandralatha (ing09855) on 2025-06-17 18:20:44 Meaning: SME Approved - (Business)::Bulk Transitions Signed by: Kumar, Prasanna (310218471) on 2025-06-10 13:27:57 Meaning: SME Approved - (Technical)::Bulk Transitions  Approval Status: [Approved]  The purpose of this document is to describe the Component requirements for Layout Manager Service. |

## Scope

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| INFO 94937  Rev: 1  **✓** | Scope  Model: [All] FS: [All] GS: [] Options: [] Quality Attributes: [] Type of Test: [Development Test]  Signatures: Signed by: Srikanta, Ashwin (310227903) on 2025-06-20 09:05:58 Meaning: QA Approved - (QA)::Bulk Transitions Signed by: Channakeshava, Chandralatha (ing09855) on 2025-06-17 18:20:47 Meaning: SME Approved - (Business)::Bulk Transitions Signed by: Kumar, Prasanna (310218471) on 2025-06-10 13:27:59 Meaning: SME Approved - (Technical)::Bulk Transitions  Approval Status: [Approved]  The scope of this document is to describe the specification of the Layout Manager Service and its role in MR workflow. This document covers the Functional, Non-Functional, and UI requirements that various software features must fulfill for the Layout Manager Service component. |

## References

|  |  |  |  |  |  |  |  |  |  |  |  |
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| INFO 95270  Rev: 1  **✓** | References  Model: [] FS: [] GS: [] Options: [] Quality Attributes: [] Type of Test: []  Signatures: Signed by: Srikanta, Ashwin (310227903) on 2025-06-20 09:06:01 Meaning: QA Approved - (QA)::Bulk Transitions Signed by: Channakeshava, Chandralatha (ing09855) on 2025-06-17 18:20:51 Meaning: SME Approved - (Business)::Bulk Transitions Signed by: Kumar, Prasanna (310218471) on 2025-06-10 13:28:02 Meaning: SME Approved - (Technical)::Bulk Transitions  Approval Status: [Approved]   |  |  |  |  |  | | --- | --- | --- | --- | --- | | **Reference** | **Doc.Number** | **Author** | **Title** | **Revision** | | [1] | D002015285 | Chandralatha Channakeshava | UserWorkflow SubSystem Requirements (SSRQ) | A | |

## Terms, Definitions and Abbreviations

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| INFO 94941  Rev: 1  **✓** | Terms, Definitions and Abbreviations  Model: [All] FS: [All] GS: [] Options: [] Quality Attributes: [] Type of Test: [Development Test]  Signatures: Signed by: Srikanta, Ashwin (310227903) on 2025-06-20 09:06:04 Meaning: QA Approved - (QA)::Bulk Transitions Signed by: Channakeshava, Chandralatha (ing09855) on 2025-06-17 18:20:54 Meaning: SME Approved - (Business)::Bulk Transitions Signed by: Kumar, Prasanna (310218471) on 2025-06-10 13:28:04 Meaning: SME Approved - (Technical)::Bulk Transitions  Approval Status: [Approved]     |  |  | | --- | --- | | ***Term*** | ***Description*** | | AP | Advanced Parameter element | | AV | Autoview element | | CTS | Component Test Specifications | | DEAL | Dealer Service | | DLL | Dynamic Link Library | | EXE | Executable file | | IPC | Inter-Process Communication | | PlanScanLeft | Plan scan with viewports 1,2,4,5 | | PlanScanRight | Plan scan with viewports 3,6 | | UI | User Interface | | UWF | User Workflow | |

# Component Overview

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| --- | --- |
| INFO 94943  Rev: 1  **✓** | Component Overview  Model: [All] FS: [All] GS: [] Options: [] Quality Attributes: [] Type of Test: [Development Test]  Signatures: Signed by: Srikanta, Ashwin (310227903) on 2025-06-20 09:06:09 Meaning: QA Approved - (QA)::Bulk Transitions Signed by: Channakeshava, Chandralatha (ing09855) on 2025-06-19 08:11:07 Meaning: SME Approved - (Business)::Bulk Transitions Signed by: Kumar, Prasanna (310218471) on 2025-06-10 13:28:08 Meaning: SME Approved - (Technical)::Bulk Transitions  Approval Status: [Approved]  Layout Manager Service to maintain the layout information of the elements in the acquisition workflow (Planscan, Advanced Parameter dialog, and Autoview). It also takes care of conflicting layouts and updates the elements on the respective layout it has to be changed into based on the action trigger. |

# Component Specification

## Functional Specification

### LayoutElements

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| SPEC 95244  Rev: 1  **✓** | SWCMP.UW.LayoutManagerService.LayoutElements  Model: [All] FS: [All] GS: [All] Options: [] Quality Attributes: [N.A.] Type of Test: [Development Test]  Signatures: Signed by: Srikanta, Ashwin (310227903) on 2025-06-20 09:06:12 Meaning: QA Approved - (QA)::Bulk Transitions Signed by: Channakeshava, Chandralatha (ing09855) on 2025-06-20 07:05:43 Meaning: SME Approved - (Business) Signed by: Kumar, Prasanna (310218471) on 2025-06-10 13:28:11 Meaning: SME Approved - (Technical)::Bulk Transitions  Approval Status: [Approved]  Layout manager service shall manage and handle layout changes across the below layout elements.    **Layout elements**   * Planscan * Advanced Parameter Editor * Autoview   Background:  . |

### LayoutMode

|  |  |
| --- | --- |
| SPEC 95125  Rev: 1  **✓** | SWCMP.UW.LayoutManagerService.LayoutMode  Model: [All] FS: [All] GS: [All] Options: [] Quality Attributes: [N.A.] Type of Test: [Development Test]  Signatures: Signed by: Srikanta, Ashwin (310227903) on 2025-06-20 09:06:16 Meaning: QA Approved - (QA)::Bulk Transitions Signed by: Channakeshava, Chandralatha (ing09855) on 2025-06-20 07:10:32 Meaning: SME Approved - (Business)::Bulk Transitions Signed by: Kumar, Prasanna (310218471) on 2025-06-10 13:28:13 Meaning: SME Approved - (Technical)::Bulk Transitions  Approval Status: [Approved]  Layout manager service shall evaluate the layout trigger and notify the elements of the resultant layout modes.  **Supported Layout Modes**   * Minimized * Docked * Maximized   Background:  . |
| SPEC 95126  Rev: 1  **✓** | SWCMP.UW.LayoutManagerService.LayoutMode.Default  Model: [All] FS: [All] GS: [All] Options: [] Quality Attributes: [N.A.] Type of Test: [Development Test]  Signatures: Signed by: Srikanta, Ashwin (310227903) on 2025-06-20 09:06:17 Meaning: QA Approved - (QA)::Bulk Transitions Signed by: Channakeshava, Chandralatha (ing09855) on 2025-06-20 07:10:34 Meaning: SME Approved - (Business)::Bulk Transitions Signed by: Kumar, Prasanna (310218471) on 2025-06-10 13:28:14 Meaning: SME Approved - (Technical)::Bulk Transitions  Approval Status: [Approved]  Layout manager service shall provide the default layout mode for all supported layout elements. The default mode shall be “Minimized”.  Background:  . |
| SPEC 95127  Rev: 1  **✓** | SWCMP.UW.LayoutManagerService.LayoutMode.Current  Model: [All] FS: [All] GS: [All] Options: [] Quality Attributes: [N.A.] Type of Test: [Development Test]  Signatures: Signed by: Srikanta, Ashwin (310227903) on 2025-06-20 09:06:19 Meaning: QA Approved - (QA)::Bulk Transitions Signed by: Channakeshava, Chandralatha (ing09855) on 2025-06-20 07:10:35 Meaning: SME Approved - (Business)::Bulk Transitions Signed by: Kumar, Prasanna (310218471) on 2025-06-10 13:28:16 Meaning: SME Approved - (Technical)::Bulk Transitions  Approval Status: [Approved]  Layout manager service provides the current layout mode for a supported layout element when queried.  Background:  . |
| SPEC 95128  Rev: 1  **✓** | SWCMP.UW.LayoutManagerService.LayoutMode.Current.PersistanceAcrossPatientSessions  Model: [All] FS: [All] GS: [All] Options: [] Quality Attributes: [N.A.] Type of Test: [Development Test]  Signatures: Signed by: Srikanta, Ashwin (310227903) on 2025-06-20 09:06:20 Meaning: QA Approved - (QA)::Bulk Transitions Signed by: Channakeshava, Chandralatha (ing09855) on 2025-06-20 07:10:37 Meaning: SME Approved - (Business)::Bulk Transitions Signed by: Kumar, Prasanna (310218471) on 2025-06-10 13:28:17 Meaning: SME Approved - (Technical)::Bulk Transitions  Approval Status: [Approved]  Layout manager service persists last open mode across the patient sessions.     |  |  |  | | --- | --- | --- | | **Last opened state of element in previous patient** | **Trigger in new patient** | **New layout mode** | | Docked | Open | Docked | | Maximized | Open | Maximized | | Docked | ForceMaximize | Maximized | | Maximized | ForceMaximize | Maximized |     Background:  . |
| SPEC 95129  Rev: 1  **✓** | SWCMP.UW.LayoutManagerService.LayoutMode.ManageLayouts  Model: [All] FS: [All] GS: [All] Options: [] Quality Attributes: [N.A.] Type of Test: [Development Test]  Signatures: Signed by: Srikanta, Ashwin (310227903) on 2025-06-20 09:06:22 Meaning: QA Approved - (QA)::Bulk Transitions Signed by: Channakeshava, Chandralatha (ing09855) on 2025-06-20 07:10:39 Meaning: SME Approved - (Business)::Bulk Transitions Signed by: Kumar, Prasanna (310218471) on 2025-06-10 13:28:18 Meaning: SME Approved - (Technical)::Bulk Transitions  Approval Status: [Approved]  The layout manager shall manage layout transitions across all layout elements on user interactions.  The layout mode changed in any element shall be evaluated and the new layout shall be notified to other elements.     |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | **Triggering Element** | | | | **Impacted Element** | | | | **Layout Element** | **Trigger** | **Layout Mode** | | **Layout Element** | **Layout Mode** | | | **Current** | **New** | **Current** | **New** | | Planscan- Left | Toggle | Minimized | Maximized | Advanced Parameter Editor | Docked | Minimized | | Planscan- Right | Toggle | Minimized | Maximized | Autoview | Docked | Minimized | | Advanced Parameter Editor | Open (and if Last open is docked) | Minimized | Docked | Planscan- Left | Maximized | Minimized | | Autoview | Open (and if Last open is docked) | Minimized | Docked | Planscan- Right | Maximized | Minimized | | Advanced Parameter Editor | Toggle | Maximized | Docked | Planscan- Left | Maximized | Minimized | | Autoview | Toggle | Maximized | Docked | Planscan- Right | Maximized | Minimized |     Background:  . |

### LayoutTriggers

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| --- | --- |
| SPEC 95119  Rev: 1  **✓** | SWCMP.UW.LayoutManagerService.LayoutTriggers  Model: [All] FS: [All] GS: [All] Options: [] Quality Attributes: [N.A.] Type of Test: [Development Test]  Signatures: Signed by: Srikanta, Ashwin (310227903) on 2025-06-20 09:06:26 Meaning: QA Approved - (QA)::Bulk Transitions Signed by: Channakeshava, Chandralatha (ing09855) on 2025-06-20 07:10:40 Meaning: SME Approved - (Business)::Bulk Transitions Signed by: Kumar, Prasanna (310218471) on 2025-06-10 13:28:21 Meaning: SME Approved - (Technical)::Bulk Transitions  Approval Status: [Approved]  Layout manager service shall manage and handle layout changes across the supported layout elements with the below layout change triggers,   * Open * Close * Toggle * Force Maximize   Background:  . |
| SPEC 95120  Rev: 1  **✓** | SWCMP.UW.LayoutManagerService.LayoutTriggers.Open  Model: [All] FS: [All] GS: [All] Options: [] Quality Attributes: [N.A.] Type of Test: [Development Test]  Signatures: Signed by: Srikanta, Ashwin (310227903) on 2025-06-20 09:06:27 Meaning: QA Approved - (QA)::Bulk Transitions Signed by: Channakeshava, Chandralatha (ing09855) on 2025-06-20 07:10:42 Meaning: SME Approved - (Business)::Bulk Transitions Signed by: Kumar, Prasanna (310218471) on 2025-06-10 13:28:22 Meaning: SME Approved - (Technical)::Bulk Transitions  Approval Status: [Approved]  When a layout element is invoked with an open trigger, the last opened mode for that element is returned.     |  |  |  | | --- | --- | --- | | **Last Opened State of Element** | **Trigger** | **New Layout Mode** | | Docked | Open | Docked | | Maximized | Open | Maximized |     When a layout element is invoked with the Open trigger the first time after the system starts, the docked mode is returned.  Background:  . |
| SPEC 95121  Rev: 1  **✓** | SWCMP.UW.LayoutManagerService.LayoutTriggers.Close  Model: [All] FS: [All] GS: [All] Options: [] Quality Attributes: [N.A.] Type of Test: [Development Test]  Signatures: Signed by: Srikanta, Ashwin (310227903) on 2025-06-20 09:06:29 Meaning: QA Approved - (QA)::Bulk Transitions Signed by: Channakeshava, Chandralatha (ing09855) on 2025-06-20 07:10:44 Meaning: SME Approved - (Business)::Bulk Transitions Signed by: Kumar, Prasanna (310218471) on 2025-06-10 13:28:23 Meaning: SME Approved - (Technical)::Bulk Transitions  Approval Status: [Approved]  When a layout element is invoked with the close trigger, then the new layout mode is set to minimized state.     |  |  |  | | --- | --- | --- | | **Current State of Element** | **Trigger** | **New Layout Mode** | | Docked | Close | Minimized | | Maximized | Close | Minimized |     Background:  . |
| SPEC 95122  Rev: 1  **✓** | SWCMP.UW.LayoutManagerService.LayoutTriggers.Toggle  Model: [All] FS: [All] GS: [All] Options: [] Quality Attributes: [N.A.] Type of Test: [Development Test]  Signatures: Signed by: Srikanta, Ashwin (310227903) on 2025-06-20 09:06:31 Meaning: QA Approved - (QA)::Bulk Transitions Signed by: Channakeshava, Chandralatha (ing09855) on 2025-06-20 07:10:45 Meaning: SME Approved - (Business)::Bulk Transitions Signed by: Kumar, Prasanna (310218471) on 2025-06-10 13:28:24 Meaning: SME Approved - (Technical)::Bulk Transitions  Approval Status: [Approved]  When a layout element is invoked with the toggle trigger, then it toggles the layout mode.   |  |  |  | | --- | --- | --- | | **Current State of Element** | **Trigger** | **New Layout Mode** | | Docked | Toggle | Maximized | | Maximized | Toggle | Docked |     Background:  . |
| SPEC 95123  Rev: 1  **✓** | SWCMP.UW.LayoutManagerService.LayoutTriggers.ForceMaximize  Model: [All] FS: [All] GS: [All] Options: [] Quality Attributes: [N.A.] Type of Test: [Development Test]  Signatures: Signed by: Srikanta, Ashwin (310227903) on 2025-06-20 09:06:32 Meaning: QA Approved - (QA)::Bulk Transitions Signed by: Channakeshava, Chandralatha (ing09855) on 2025-06-20 07:10:47 Meaning: SME Approved - (Business)::Bulk Transitions Signed by: Kumar, Prasanna (310218471) on 2025-06-10 13:28:26 Meaning: SME Approved - (Technical)::Bulk Transitions  Approval Status: [Approved]  When a layout element is invoked with the ForceMaximize trigger, then the new layout mode is set to maximize and ignores the last opened state.     |  |  |  | | --- | --- | --- | | **Last Opened State of Element** | **Trigger** | **New Layout Mode** | | Docked | ForceMaximize | Maximized | | Maximized | ForceMaximize | Maximized |     Background:  . |

## Non Functional Specifications

### CrashRecovery

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| --- | --- |
| SPEC 95131  Rev: 1  **✓** | SWCMP.UW.LayoutManagerService.CrashRecovery  Model: [All] FS: [All] GS: [All] Options: [] Quality Attributes: [N.A.] Type of Test: [Development Test]  Signatures: Signed by: Srikanta, Ashwin (310227903) on 2025-06-20 09:06:37 Meaning: QA Approved - (QA)::Bulk Transitions Signed by: Channakeshava, Chandralatha (ing09855) on 2025-06-19 08:16:50 Meaning: SME Approved - (Business)::Bulk Transitions Signed by: Kumar, Prasanna (310218471) on 2025-06-10 13:28:29 Meaning: SME Approved - (Technical)::Bulk Transitions  Approval Status: [Approved]  Layout manager service crashes, it shall recover to its last state.  Background:  . |

## Essential Specifications

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| --- | --- |
| INFO 95252  Rev: 1  **✓** | SWCMP.UW.Essential Requirements  Model: [All] FS: [All] GS: [] Options: [] Quality Attributes: [] Type of Test: [Development Test]  Signatures: Signed by: Srikanta, Ashwin (310227903) on 2025-06-20 09:06:42 Meaning: QA Approved - (QA)::Bulk Transitions Signed by: Channakeshava, Chandralatha (ing09855) on 2025-06-19 08:16:56 Meaning: SME Approved - (Business)::Bulk Transitions Signed by: Kumar, Prasanna (310218471) on 2025-06-10 13:28:33 Meaning: SME Approved - (Technical)::Bulk Transitions  Approval Status: [Approved]  N.A. |

## Compliance Specifications

# Component Traceability

|  |  |
| --- | --- |
| INFO 95246  Rev: 1  **✓** | Component Traceability  Model: [All] FS: [All] GS: [] Options: [] Quality Attributes: [] Type of Test: [Development Test]  Signatures: Signed by: Srikanta, Ashwin (310227903) on 2025-06-23 06:45:20 Meaning: QA Approved - (QA) Signed by: Channakeshava, Chandralatha (ing09855) on 2025-06-22 17:54:57 Meaning: SME Approved - (Business) Signed by: Kumar, Prasanna (310218471) on 2025-06-20 16:42:02 Meaning: SME Approved - (Technical)  Approval Status: [Approved] |

**Attachment:**

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# Document History

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| INFO 95248  Rev: 1  **✓** | Document History  Model: [] FS: [] GS: [] Options: [] Quality Attributes: [] Type of Test: []  Signatures: Signed by: Srikanta, Ashwin (310227903) on 2025-06-23 09:01:04 Meaning: QA Approved - (QA) Signed by: Channakeshava, Chandralatha (ing09855) on 2025-06-23 07:56:48 Meaning: SME Approved - (Business) Signed by: Kumar, Prasanna (310218471) on 2025-06-20 16:44:56 Meaning: SME Approved - (Technical)  Approval Status: [Approved]  *The Date and Author Name in the document history (below table) is the last date of change and person who made the change in ALM. This may/may not be same as the in CS Title Page (which is the date and person to initiate Agile/WindChill routing)*     |  |  |  |  | | --- | --- | --- | --- | | **Revision** | **Date** | **Author** | **Description** | | A | 23-May-2025 | Ramanjaneyulu SBV | Initial Version for Layout Manager Service | | A | 20-Jun-2025 | Ramanjaneyulu SBV | Generated the traceability matrix and created version 'A' for the document D002066655 for Voxel (R13.0.0). | |

