Report on Identified Refactoring Opportunities for SC/ST Refactoring

Each of the identified control-fields represents an SC/ST refactoring opportunity.

Statistics on Identified Control-Fields:

1. No. of Classes (IPC): 510
2. Classes Qualified for Refactoring (QC): 58
3. %QC: 11.373%
4. No. of Fields in All Classes (IF): 2845
5. Indentified Control Fields (CF): 100
6. %CF: 3.515%
7. No. of Control-Fields for SC Refactoring: 34
8. No. of Control-Fields for ST Refactoring: 66
9. No. of Control-Fields Associated with More Than 15 Conditional-Statements: 2
10. No. of Control-Fields Associated with 11 to 15 Conditional-Statements: 2
11. No. of Control-Fields Associated with 6 to 10 Conditional-Statements: 5
12. No. of Control-Fields Associated with 2 to 5 Conditional-Statements: 91

Identified Control-Fields. A control-field is denoted as <C, f>, where 'f' is a field of a class with fully-qualified name 'C'. Uses = Number of conditional-statements associated with a control-field.

Uses	Replace Type Code with Subclass (SC)
8	<org.jfree.chart.renderer.category.StackedAreaRenderer, renderAsPercentages>
6	<org.jfree.data.gantt.XYTaskDataset, transposed>
5	<org.jfree.data.xy.XYSeries, autoSort>
	<org.jfree.chart.axis.LogarithmicAxis, allowNegativesFlag>
4	<org.jfree.data.general.SubSeriesDataset, parent>
	<org.jfree.chart.renderer.xy.XYDifferenceRenderer, roundXCoordinates>
	<org.jfree.data.general.CombinedDataset.DatasetInfo, data>
	<org.jfree.data.xy.XYSeries, allowDuplicateXValues>
	<org.jfree.chart.block.BlockParams, generateEntities>
	<org.jfree.chart.title.PaintScaleLegend, stripOutlineVisible>
3	<org.jfree.data.jdbc.JDBCCategoryDataset, transpose>
	<org.jfree.chart.renderer.xy.StackedXYBarRenderer, renderAsPercentages>

Uses	Replace Type Code with State (ST)
30	<org.jfree.chart.axis.ValueAxis, inverted>
17	<org.jfree.chart.axis.ValueAxis, verticalTickLabels>
13	<org.jfree.chart.axis.ValueAxis, autoRange>
12	<org.jfree.chart.axis.Axis, visible>
10	<org.jfree.chart.renderer.category.BarRenderer, drawBarOutline>
8	<org.jfree.chart.axis.ValueAxis, autoTickUnitSelection>
6	<org.jfree.chart.axis.Axis, tickLabelsVisible>
5	<org.jfree.chart.axis.Axis, axisLineVisible>
	<org.jfree.chart.renderer.category.BarRenderer, shadowsVisible>
	<org.jfree.chart.ChartPanel, useBuffer>
	<org.jfree.chart.axis.Axis, tickMarksVisible>
4	<org.jfree.chart.renderer.category.LineAndShapeRenderer, useSeriesOffset>
	<org.jfree.chart.plot.PiePlot, simpleLabels>
	<org.jfree.chart.plot.ContourPlot, rangeCrosshairLockedOnData>
	<org.jfree.chart.title.TextTitle, expandToFitSpace>
	<org.jfree.chart.plot.dial.AbstractDialLayer, visible>
	<org.jfree.chart.axis.LogarithmicAxis, smallLogFlag>
3	<org.jfree.chart.renderer.xy.CandlestickRenderer, useOutlinePaint>
	<org.jfree.chart.renderer.category.StackedBarRenderer, renderAsPercentages>
	<org.jfree.chart.renderer.xy.XYBarRenderer, shadowsVisible>
	<org.jfree.chart.plot.XYPlot, rangeCrosshairLockedOnData>
	<org.jfree.chart.renderer.xy.XYBarRenderer, drawBarOutline>
	<org.jfree.chart.plot.PiePlot, circular>
	<org.jfree.chart.axis.NumberAxis, autoRangeStickyZero>
	<org.jfree.chart.renderer.AbstractRenderer, dataBoundsIncludesVisibleSeriesOnly>

Uses	Replace Type Code with Subclass (SC)	Uses	Replace Type Code with State (ST)
2	<org.jfree.chart.renderer.DefaultPolarItemRenderer, useFillPaint>	2	<org.jfree.chart.plot.XYPlot, domainCrosshairVisible>
	<org.jfree.chart.renderer.OutlierListCollection, lowFarOut>		<org.jfree.chart.renderer.category.LineAndShapeRenderer, useOutlinePaint>
	<org.jfree.chart.renderer.category.BoxAndWhiskerRenderer, fillBox>		<org.jfree.chart.renderer.category.BoxAndWhiskerRenderer, useOutlinePaintForWhiskers>
	<org.jfree.chart.renderer.xy.ClusteredXYBarRenderer, centerBarAtStartValue>		<org.jfree.chart.entity.ChartEntity, area>
	<org.jfree.chart.plot.CompassPlot, drawBorder>		<org.jfree.chart.plot.XYPlot, rangeCrosshairVisible>
	<org.jfree.data.xy.IntervalXYDelegate, autoWidth>		<org.jfree.chart.plot.CategoryPlot, rangeCrosshairVisible>
	<org.jfree.data.DefaultKeyedValues2D, sortRowKeys>		<org.jfree.chart.axis.DateAxis, timeline>
	<org.jfree.chart.plot.MeterPlot, drawBorder>		<org.jfree.chart.annotations.AbstractAnnotation, notify>
	<org.jfree.chart.renderer.OutlierListCollection, highFarOut>		<org.jfree.chart.plot.CategoryPlot, drawSharedDomainAxis>
	<org.jfree.chart.renderer.OutlierList, multiple>		<org.jfree.chart.block.AbstractBlock, frame>
	<org.jfree.data.time.Second, second>		<org.jfree.chart.plot.ContourPlot, domainCrosshairVisible>
	<org.jfree.chart.renderer.DefaultPolarItemRenderer, drawOutlineWhenFilled>		<org.jfree.chart.renderer.category.LineAndShapeRenderer, useFillPaint>
	<org.jfree.data.time.Millisecond, millisecond>		<org.jfree.chart.plot.ContourPlot, rangeCrosshairVisible>
	<org.jfree.chart.renderer.xy.XYBoxAndWhiskerRenderer, fillBox>		<org.jfree.chart.renderer.xy.XYItemRendererState, processVisibleItemsOnly>
	<org.jfree.chart.util.LogFormat, showBase>		<org.jfree.chart.renderer.xy.XYBarRenderer, useYInterval>
	<org.jfree.data.time.Minute, minute>		<org.jfree.chart.renderer.AbstractRenderer, autoPopulateSeriesStroke>
	<org.jfree.data.time.Hour, hour>		<org.jfree.chart.editor.DefaultNumberAxisEditor, autoRange>
	<org.jfree.chart.axis.LogarithmicAxis, expTickLabelsFlag>		<org.jfree.chart.renderer.AbstractRenderer, autoPopulateSeriesPaint>
	<org.jfree.chart.axis.SegmentedTimeline, adjustForDaylightSaving>		<org.jfree.chart.plot.CategoryPlot, rangeCrosshairLockedOnData>
	<org.jfree.chart.axis.LogarithmicAxis, log10TickLabelsFlag>		<org.jfree.chart.plot.Plot, outlineVisible>
	<org.jfree.chart.axis.PeriodAxis, minorTickMarksVisible>		<org.jfree.data.ComparableObjectSeries, allowDuplicateXValues>
	<org.jfree.chart.axis.DateTickUnit,unit>		<org.jfree.chart.annotations.XYTextAnnotation, outlineVisible>
			<org.jfree.chart.plot.PiePlot, sectionOutlinesVisible>
			<org.jfree.chart.renderer.category.BoxAndWhiskerRenderer, medianVisible>
			<org.jfree.chart.title.Title, visible>
			<org.jfree.chart.plot.ContourPlot, domainCrosshairLockedOnData>
			<org.jfree.chart.plot.ColorPalette, stepped>
			<org.jfree.chart.plot.Crosshair, visible>
			<org.jfree.chart.ChartPanel, ownToolTipDelaysActive>
			<org.jfree.chart.plot.XYPlot, domainCrosshairLockedOnData>

Uses	Replace Type Code with State (ST)
	<org.jfree.chart.renderer.xy.XYAreaRenderer, showOutline>
	<org.jfree.chart.renderer.category.LineAndShapeRenderer, drawOutlines>
	<org.jfree.data.ComparableObjectSeries, autoSort>
	<org.jfree.chart.renderer.category.BoxAndWhiskerRenderer, meanVisible>
	<org.jfree.chart.axis.NumberAxis, autoRangeIncludesZero>
	<org.jfree.chart.renderer.xy.XYAreaRenderer, plotLines>
	<org.jfree.chart.renderer.xy.XYAreaRenderer, plotShapes>
	<org.jfree.chart.renderer.xy.CandlestickRenderer, drawVolume>
	<org.jfree.chart.plot.Crosshair, labelVisible>
	<org.jfree.chart.plot.PiePlot, labelLinksVisible>
	<org.jfree.chart.renderer.xy.XYAreaRenderer, plotArea>