



```

public Sandbox getClosestSandbox(String fileName) {
    SIDirectoryServices sids =
    SIDirectoryServices();
    String absoluteDir;
    String absolutePath = null;
    File abs = null;
    if (fileNar

```

mks

**Flexible Configuration Management for a
Component-based Software Asset Repository**

```

Absolute(getContext(), new File(fileName));
absolutePath = NativeFile.getCanonical
getNativeDirectory(absolutePath, false);
} else {
    absoluteDir = getContext().getCwd

```

Presented on behalf of MKS by

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MKS Overview

- Provider of enterprise software configuration management solutions since 1984
- Strong Global 1000 penetration
- 26,000 seats of enterprise SCM installed since July, 2001
- HSBC, DaimlerChrysler, Pharmacia, Johnson & Johnson, Continental Teves, RBC
- Public - TSE:MKX

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About the Author

- 20 years in Software Development
- 12 years in CM
- Automotive, Banking, Telecoms & other
- 3 years with MKS
- Now independent



Software Repository Business Drivers

- Sharing of functional components
- no reinventing the wheel!
- Flexible assembly of components into products
- rapid response to new requirements & new customers
- Tailoring of a core product for different customers
- stay flexible to customer needs while optimising maintainability



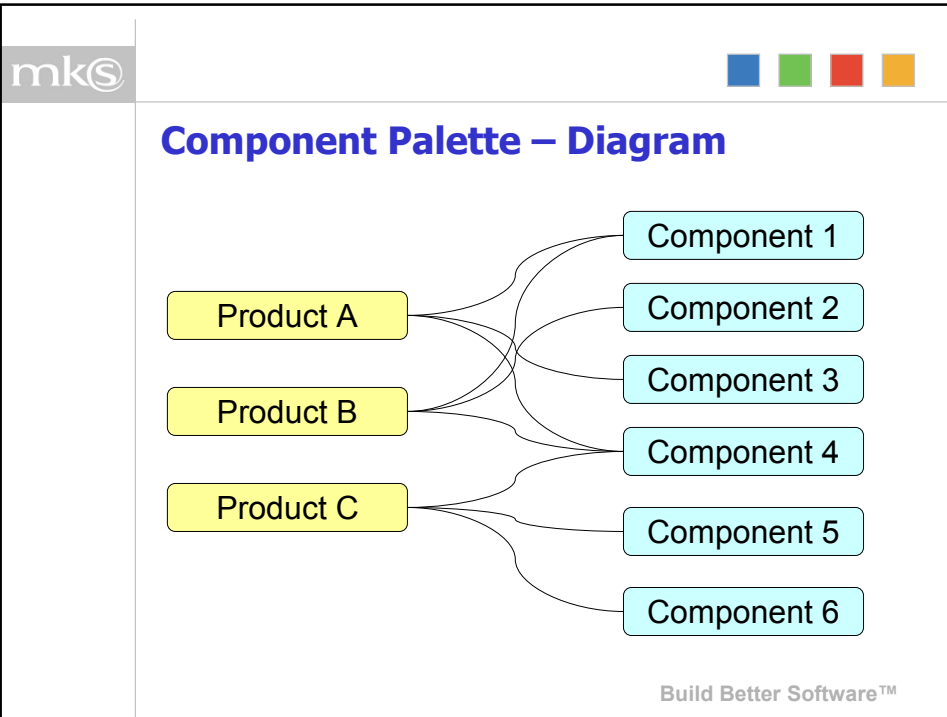
Component Based SCM

- Version control at individual file level (*member*)
- Files grouped into component configurations (*subproject*)
- Components grouped re-usably into product configurations (*project*)
- Each component may have its own independent version & branching history



Pattern: Component Palette

- Multiple components in flat structure
- Each product includes an arbitrary combination of components
- Symmetrical
- Can treat as 100% re-used code
 - though some components may in fact only be in one product
- Easy to re-use code later
 - even if not originally planned to do so



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- ### Component Palette – typical situation
- Large library, small product
 - Each product typically includes only a small % of the whole code base
 - Not much release history at product level
 - Typical example – mobile phone industry
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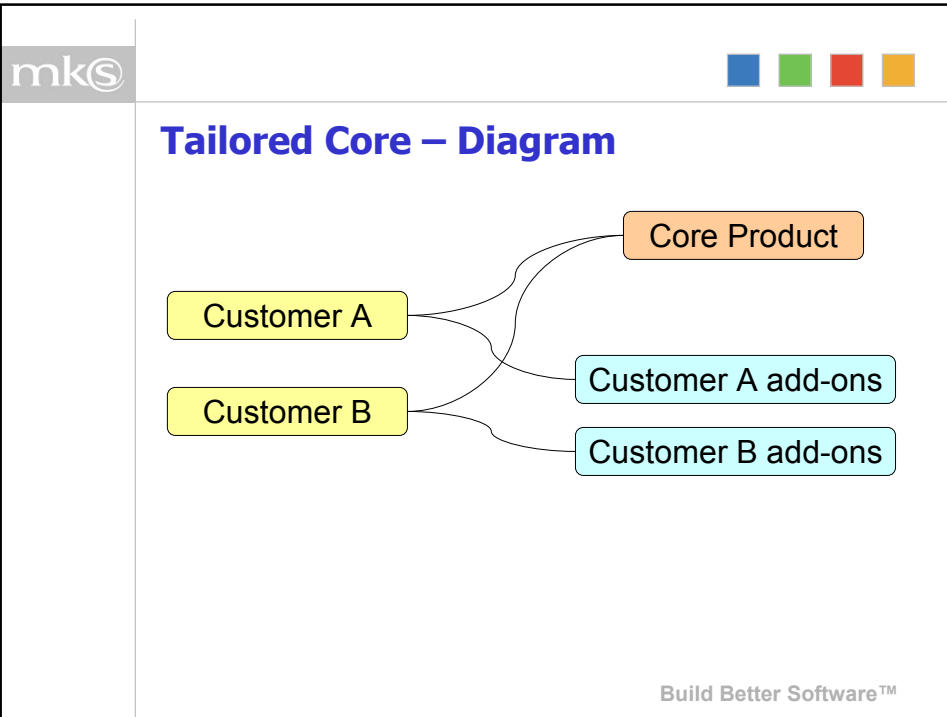
Pattern: Tailored Core Product

- Core product
 - any appropriate structure
 - generally not re-used code
- Customer-specific modifications
 - implemented by branched development of core
- Customer-specific add-ons
 - implemented by re-usable subprojects



Tailored Core – typical situation

- Large product, small library
- Large % code base commonality
- May have long complex release history for each customer
- Typically small number of customers, intensive relationship
- Typical example – industrial automation



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- ### Component Based SCM - Tool Support
- Hierarchical project structure
 - Branching at project level
 - Re-useability at subproject level
 - many-to-one project-subproject linkage
 - Tool examples use MKS Source Integrity Enterprise
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Component Palette

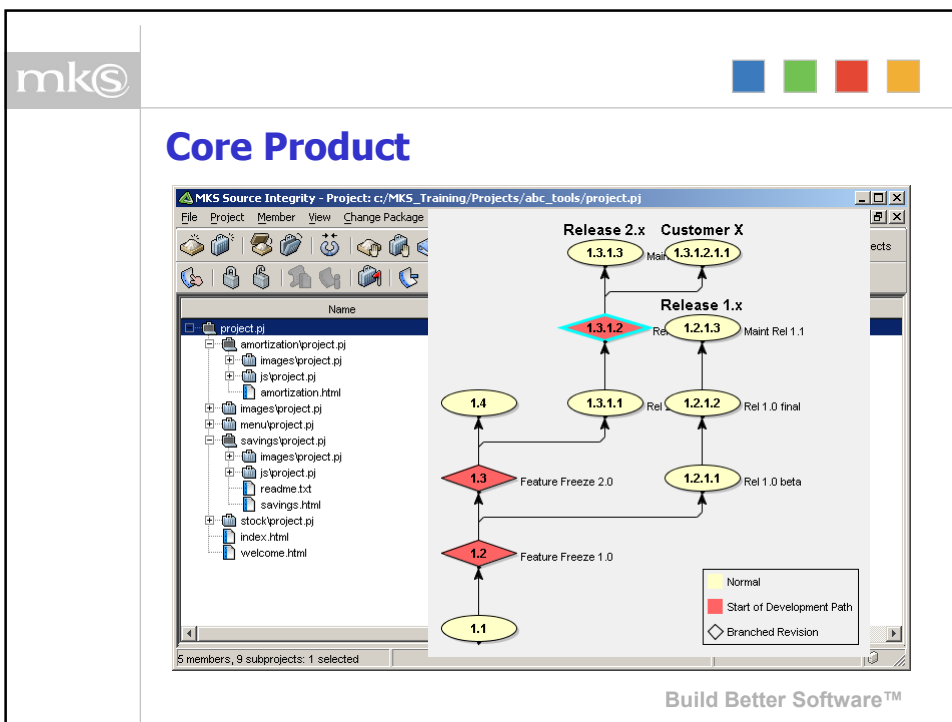
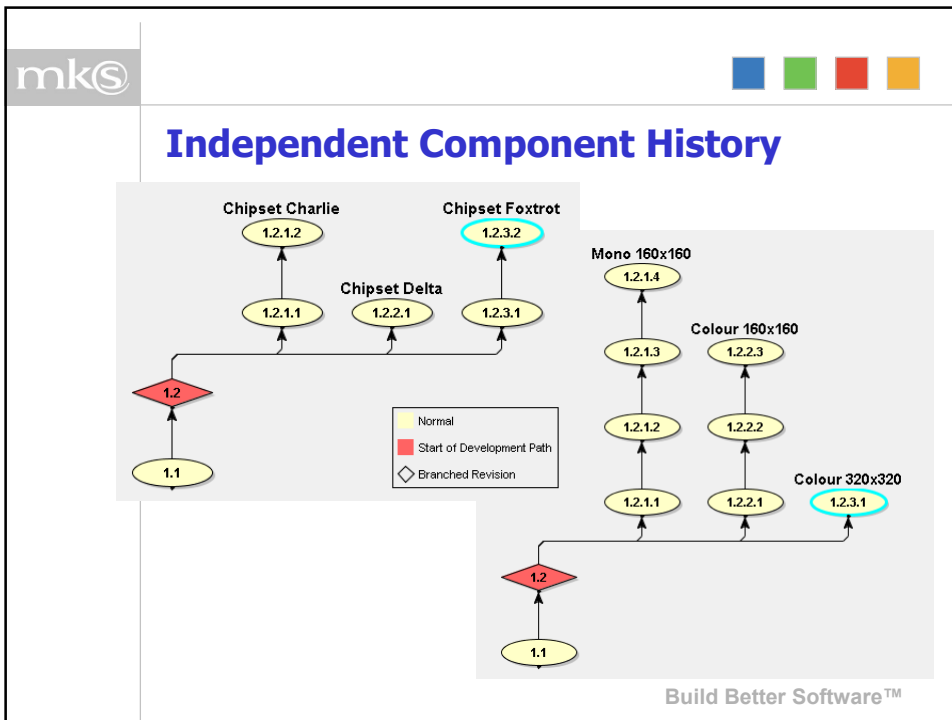
The screenshot shows the 'Component Palette' window in MKS Source Integrity. The window title is 'MKS Source Integrity - Project: c:/SI-Projects/Components/Components.pj'. The interface includes a menu bar (File, Project, Member, View, Change Package, Tools, Window, Help) and a toolbar with various icons. A filter dropdown is set to 'All Members' and a 'Hide Empty Projects' checkbox is present. The main area displays a tree view of components under 'Components.pj'. The selected component is 'comp-05/project.pj', which contains two members: 'Makefile.am' and 'Makefile.in', both with revision 1.1 and timestamp 'Mar 15, 2004 - 4:08:53 PM'. Other components listed include comp-01 through comp-12. The status bar at the bottom indicates '2 members, 16 subprojects: 1 selected'.

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Product using components

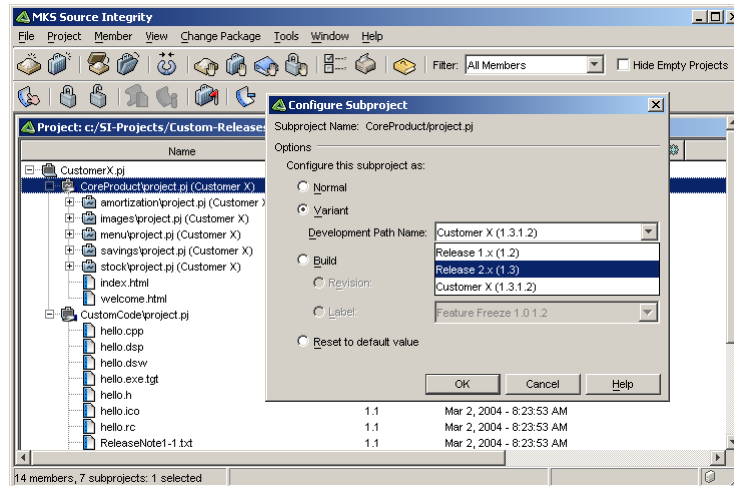
The screenshot shows the 'Product using components' window in MKS Source Integrity. The window title is 'MKS Source Integrity - Project: c:/SI-Projects/Products/Product-B/Product-B.pj'. The interface is similar to the Component Palette window, with a menu bar and toolbar. The main area displays a tree view of the product structure under 'Product-B.pj'. The selected component is 'drivers', which contains several sub-projects: 'drivers/comp-02/project.pj (Chipset Foxrot)', 'drivers/comp-03/project.pj (Chipset Foxrot)', 'drivers/comp-05/project.pj (Colour 320x320)', 'GUI' (containing 'GUI/comp-15/project.pj'), and 'messaging' (containing 'messaging/comp-08/project.pj' and 'messaging/comp-11/project.pj'). The status bar at the bottom indicates '6 subprojects: 1 selected'.

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Customer "Container Project"



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Summary

Component Based SCM achieves:

- Responsiveness
- *fulfilling customer needs*
- Re-useability
- *maximising efficiency by avoiding duplicated effort*
- Flexibility
- *easily matching configurations to requirements*

= COMPETITIVE ADVANTAGE!

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Thank you for attending!

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MKS web site: www.mks.com