WebSphere Portal Migration: Best Practices Open Mic

13 March 2013

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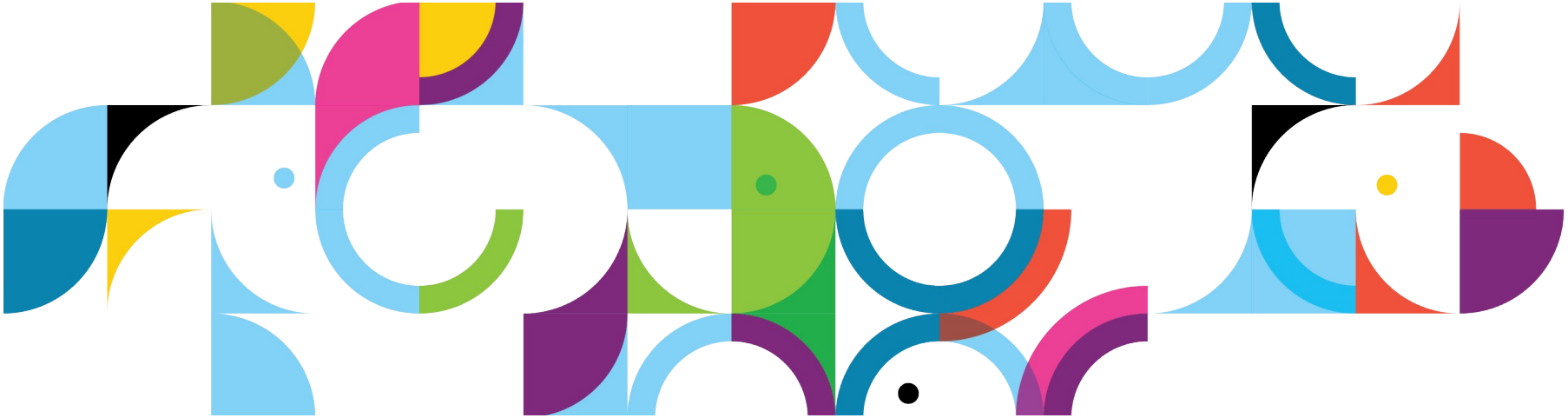
IBM Collaboration Solutions



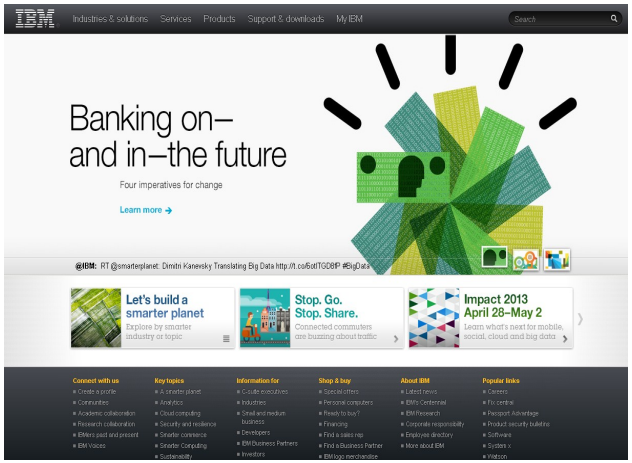
Agenda

- WebSphere Portal Migration
- Migration Walkthrough
- Migration Strategies
- Managed Pages
- Portal 8 Static Pages
- Resource Links
- Q&A

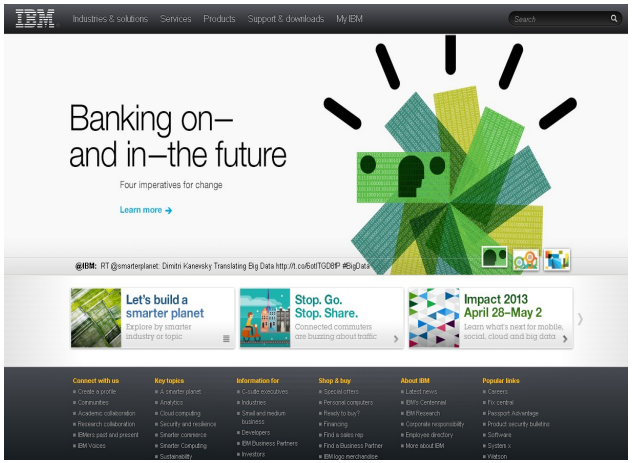
WebSphere Portal Migration

- The goal of Portal Migration is to move all content, applications, and pages from the source to target environment while maintaining the same look and feel of the original website.
  - To the end user, the website should look and be functionally the same.
  - New Portal features are installed, but not enabled.
  - Some applications and content may need to be manually updated to meet new specifications.

Before



After



WebSphere Portal Migration

- Migration can be performed locally or remote.
- Migration can be non-destructive and allow both the source and target to run simultaneously.
- WCM Support can be added to a Portal Server during migration.
- Migration is only supported from the two previous main versions.
  - v6.1 → v8 is supported
  - v7 → v8 is supported
  - v6 → v8 is not supported
- Migration is not cross platform.
  - v7 on Linux → v8 on Linux is supported
  - v7 on Windows → v8 on Linux is not supported
  - Platform changes should be done as a separate task before or after migration.
- Migration does not allow changing cell or node names.
  - Cell and node name changes should be done as a separate task before or after migration.

Before Starting

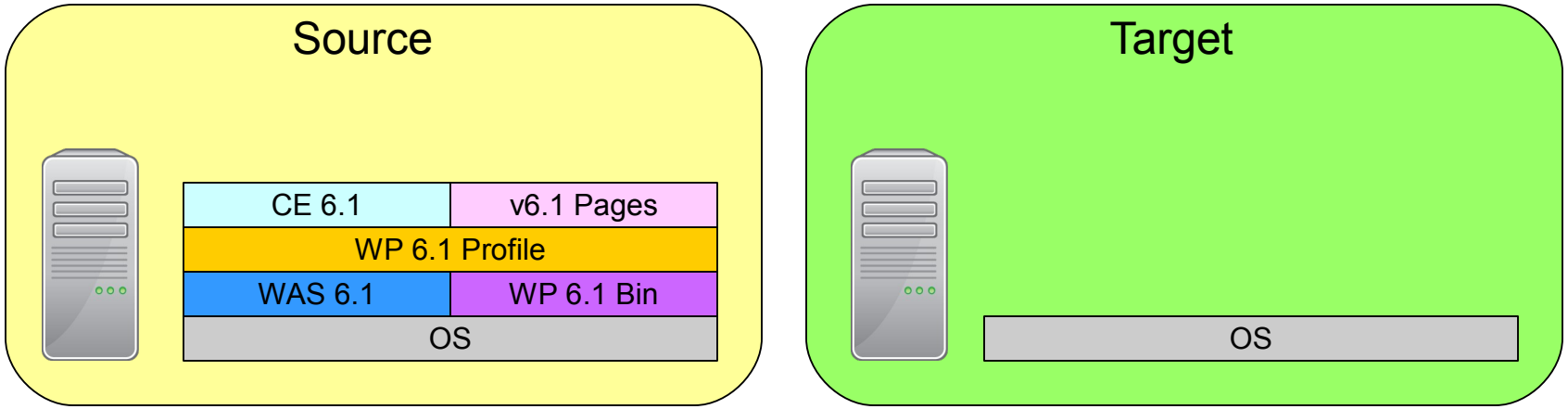
- Plan
  - Define complete for each environment
  - Create an iterative migration plan
  - Device a rollback plan
- Prepare
  - Scope required resources and time
  - Obtain necessary software and hardware
  - Determine which applications need to be updated and begin updating them
- Practice
  - Practice and become familiar with the process
  - Stage a migration practice run using an environment that mimics the production environment as closely as possible

Migration Walkthrough

- Part 1: Prepare source and target environment
- Part 2: Import source Portal Profile to target environment
- Part 3: Connect target environment to copies of the Databases
- Part 4: Upgrade the target Portal Profile
- Part 5: Post migration steps

Prepare Source and Target Environment

- S: Apply latest fix pack
- T: Binary-only install
- T: Apply latest fix pack
- T: Create remote migration package
- S: Copy remote migration package
- S: Disable Automatic synchronization
- S: Prevent changes



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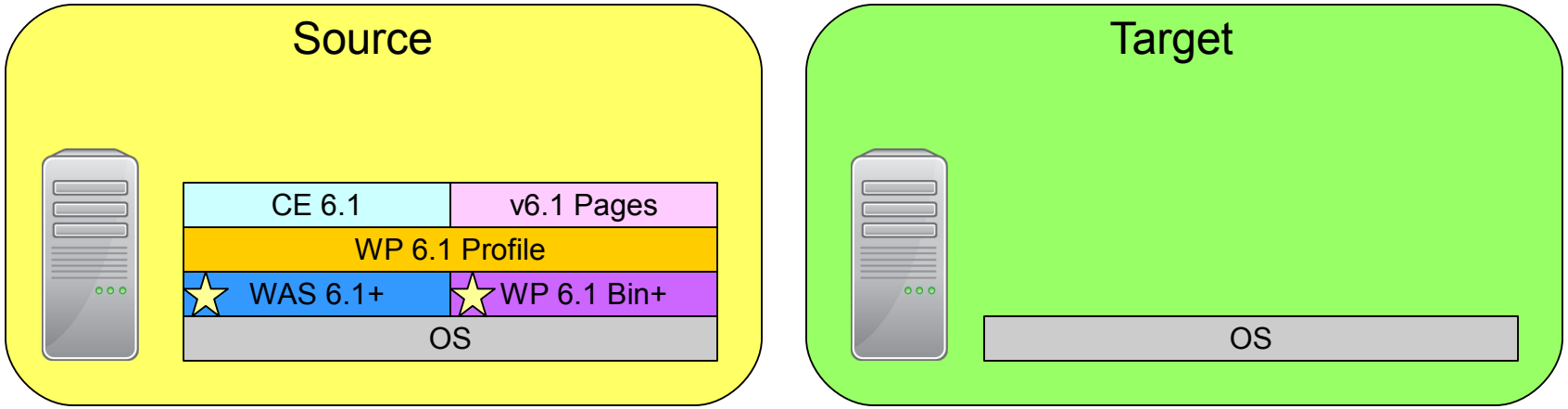

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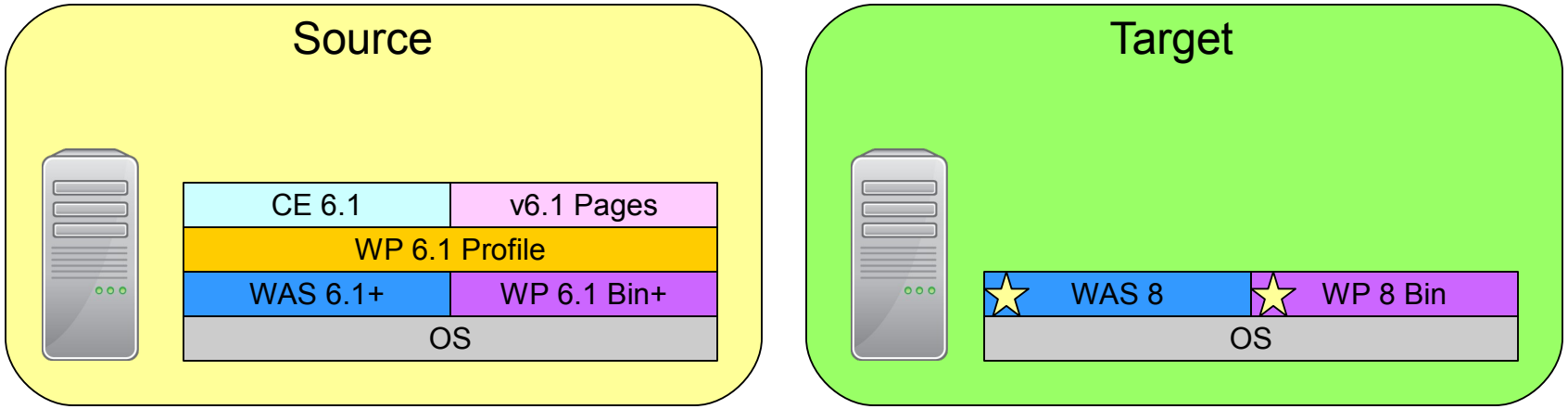

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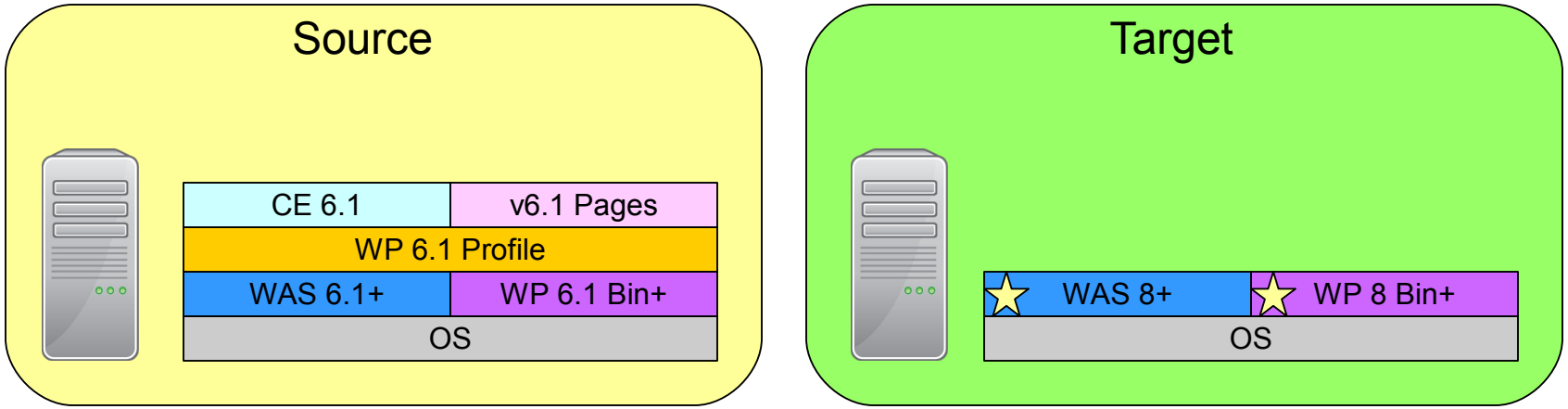

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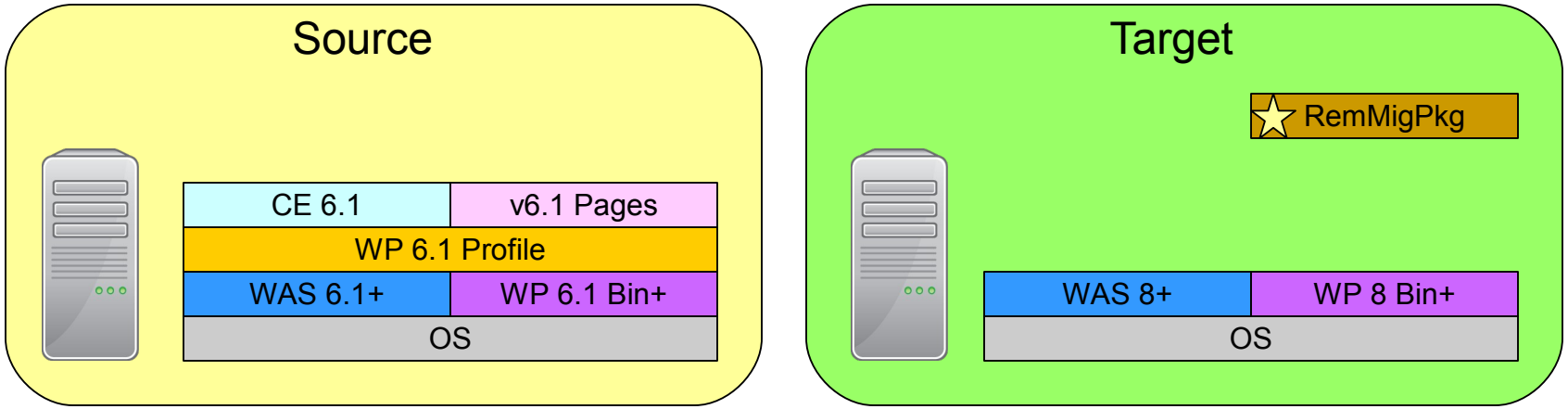

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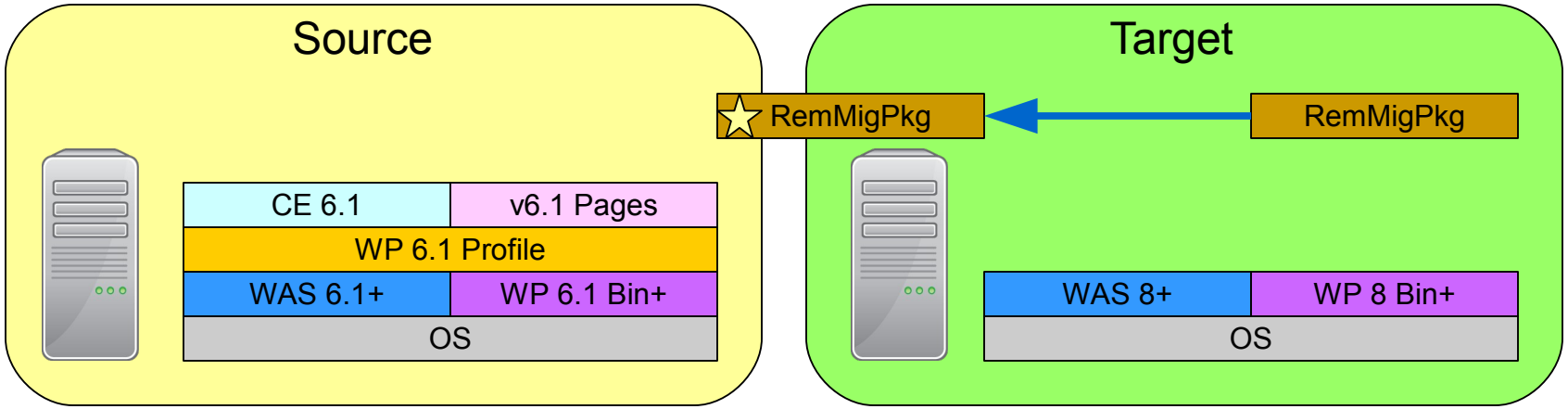

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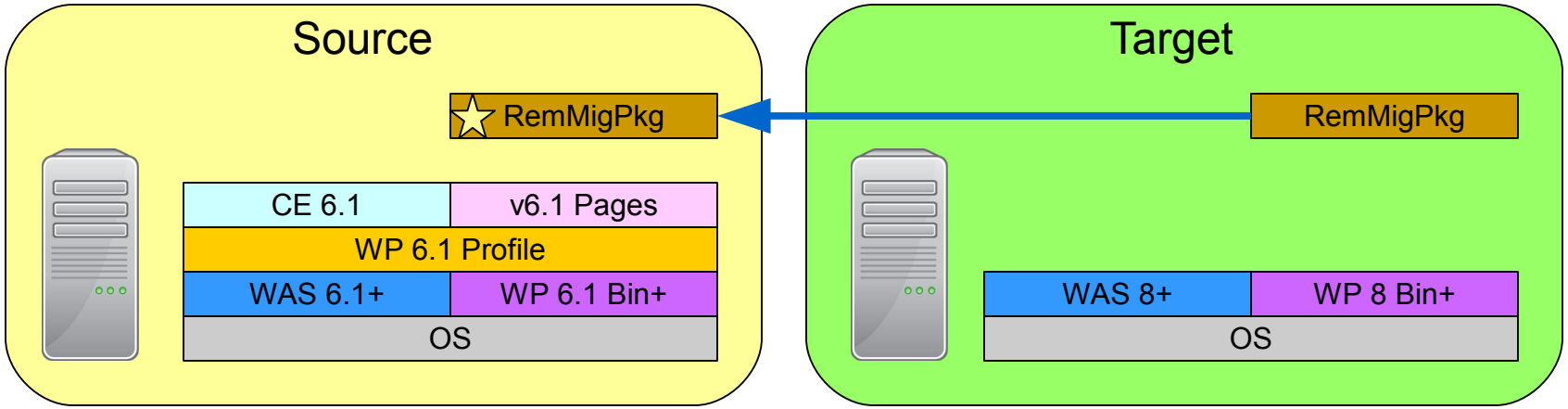

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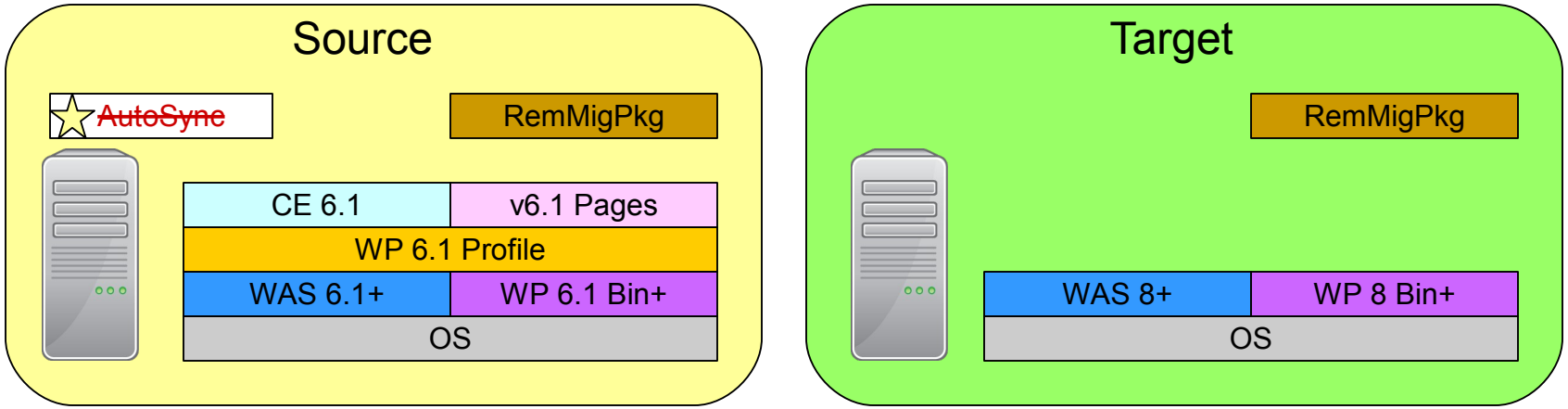

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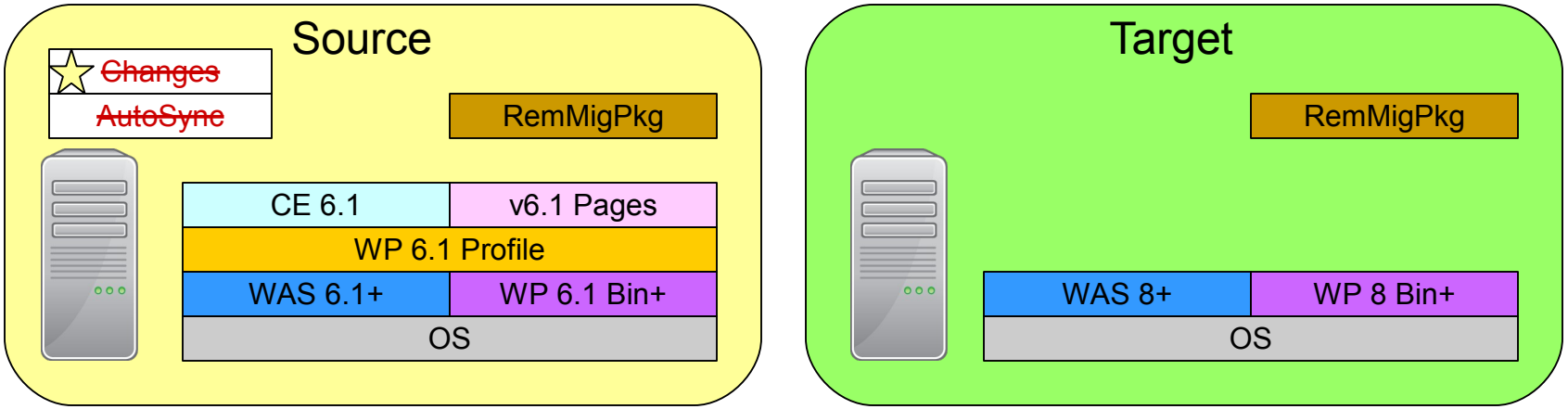
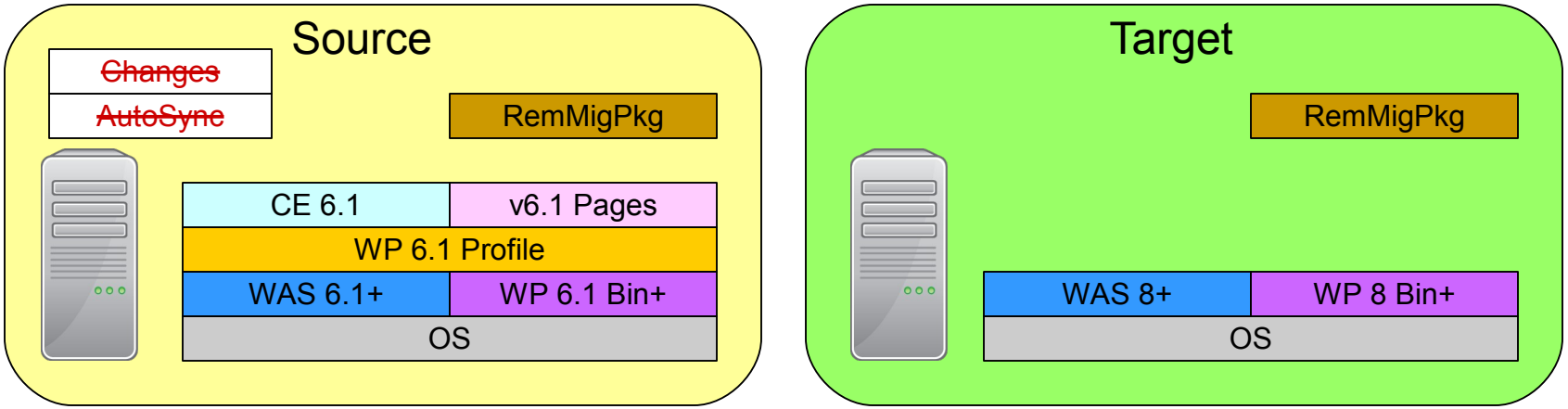
Refer to the wiki for additional preparation steps such as making backups, updating database statistics, and ensuring there is no locked content.



Best Practices

- Make sure to apply latest fix packs to source and target
- Disable AutoSync
- Limit changes in source environment



Import Source Portal Profile to Target Environment

- S: Export profile using `WASPreUpgrade`
- T: Copy exported backup profile
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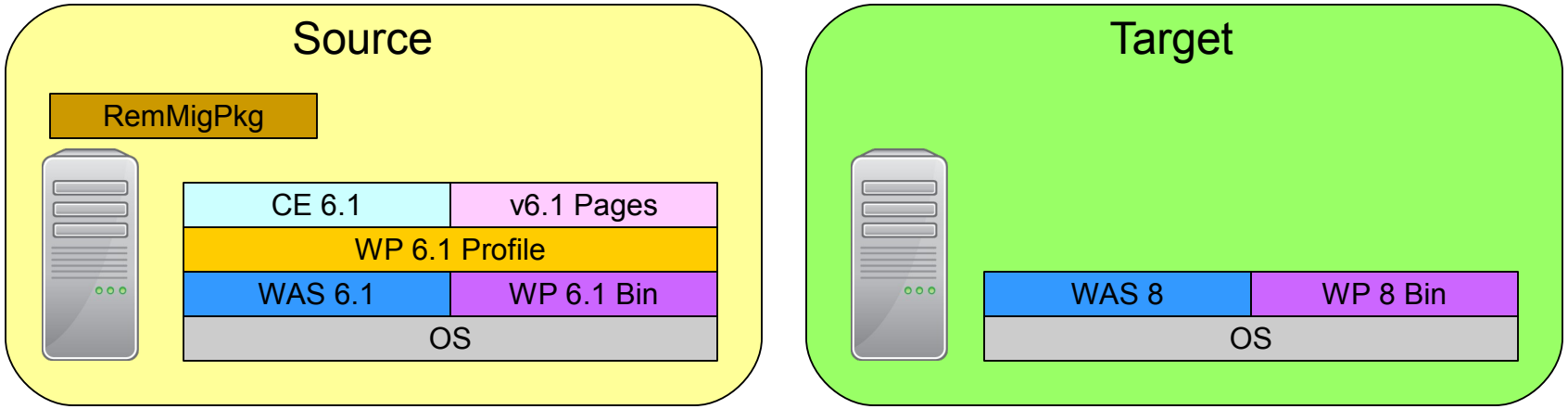

Import Source Portal Profile to Target Environment

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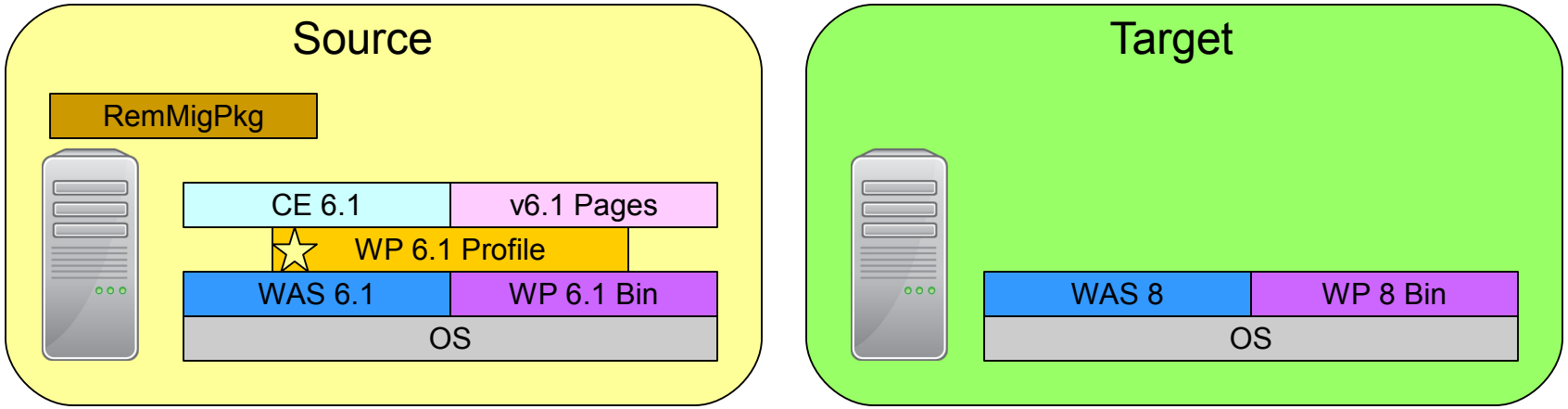

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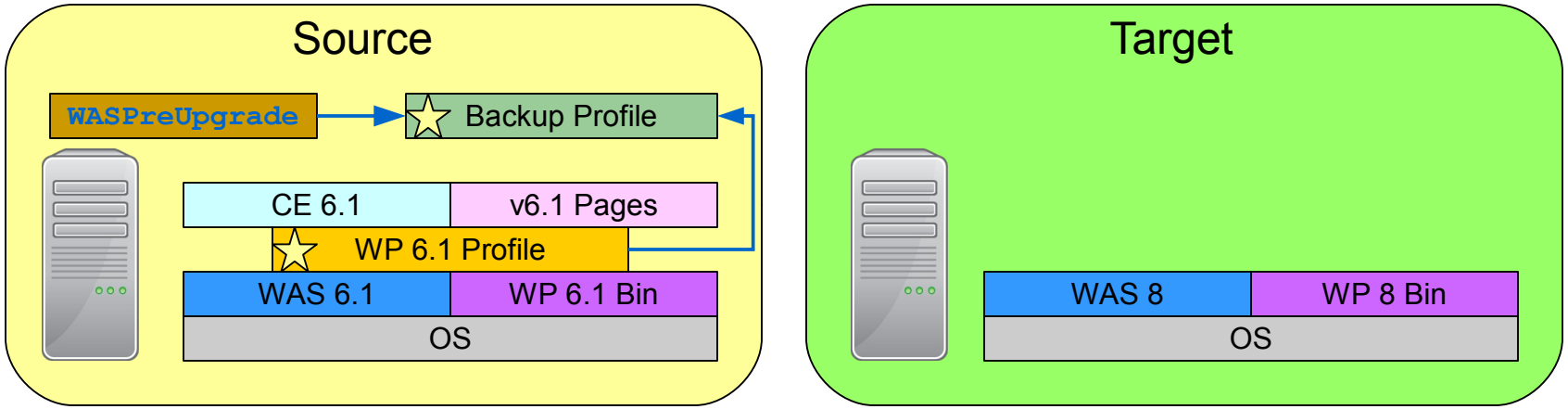

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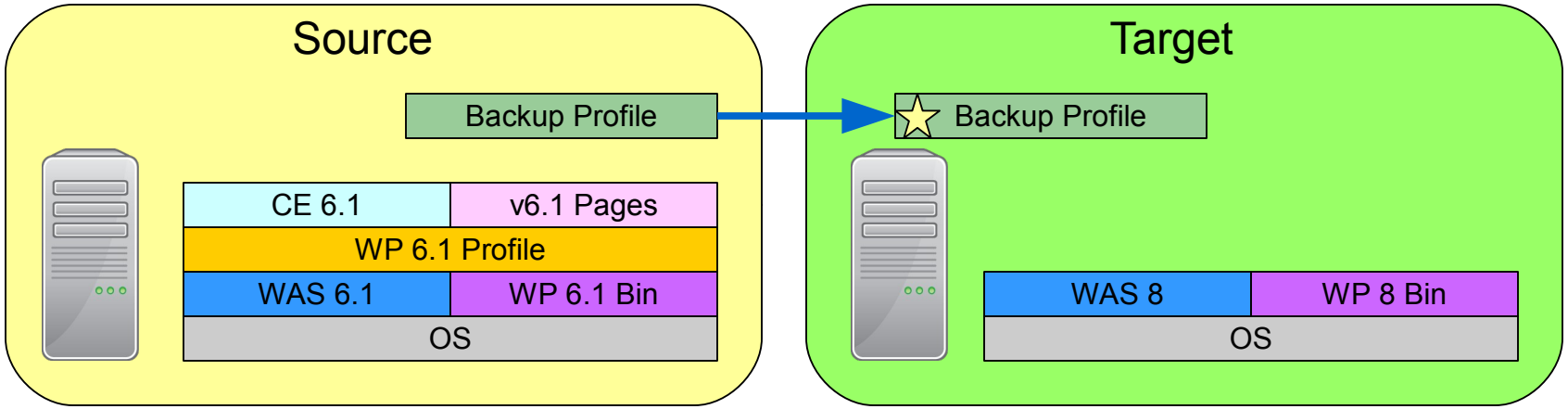

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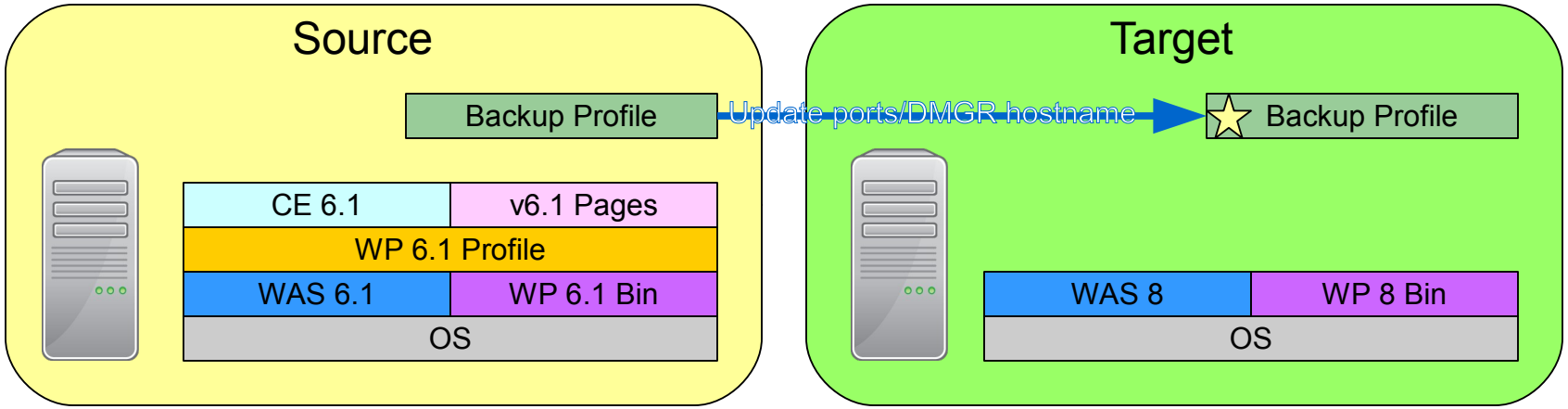

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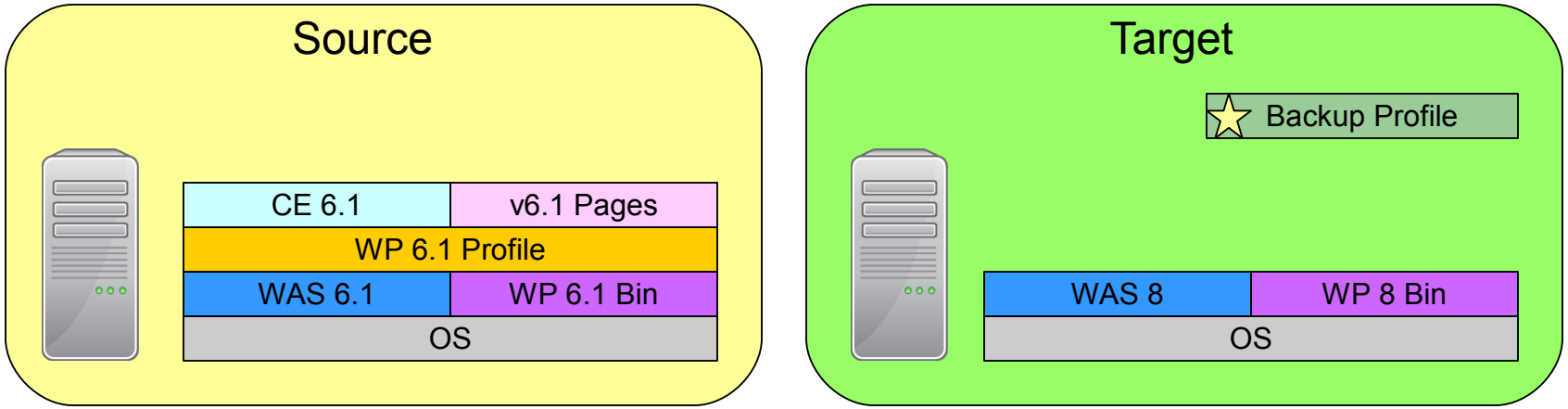

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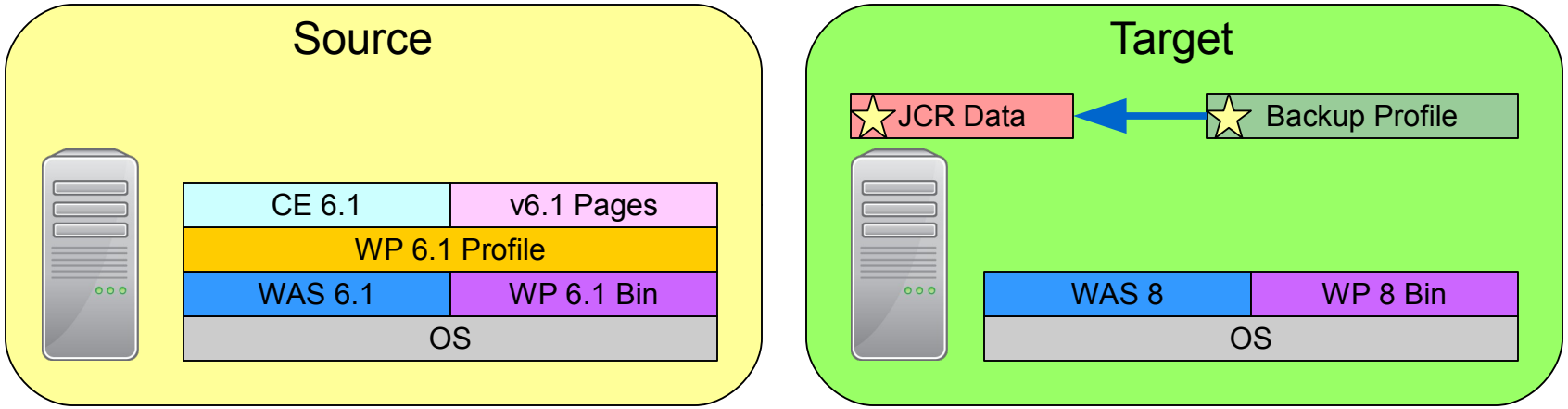

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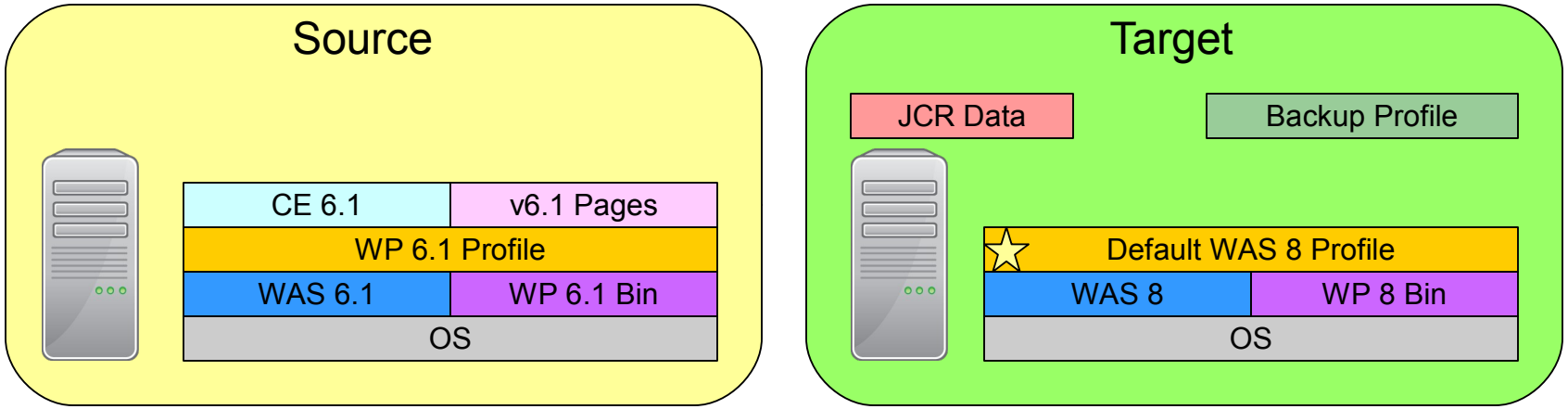

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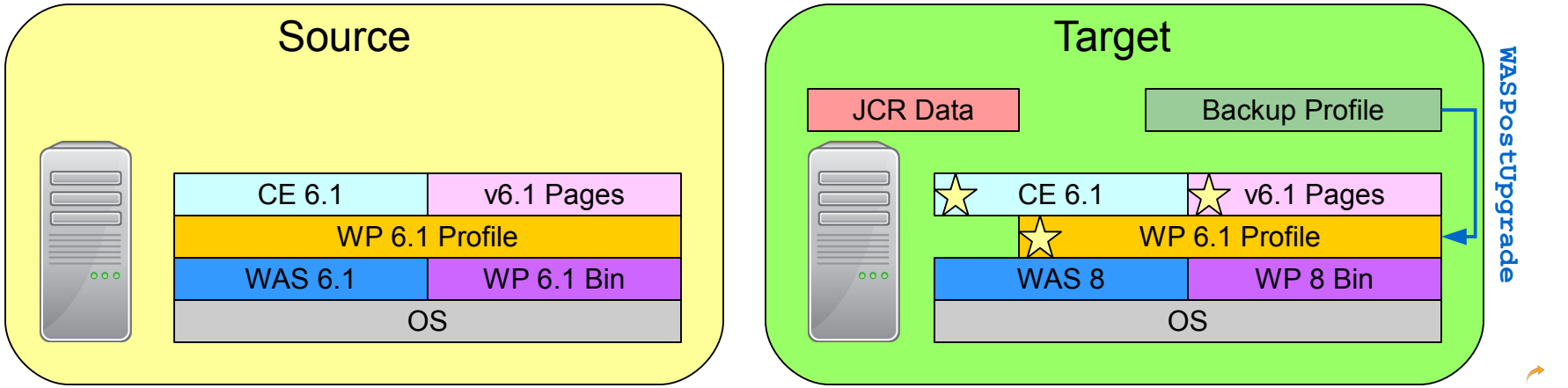
- T: Upgrade ConfigEngine using `upgradeConfigEngine`

Make sure to bring over any dependencies for any custom code.



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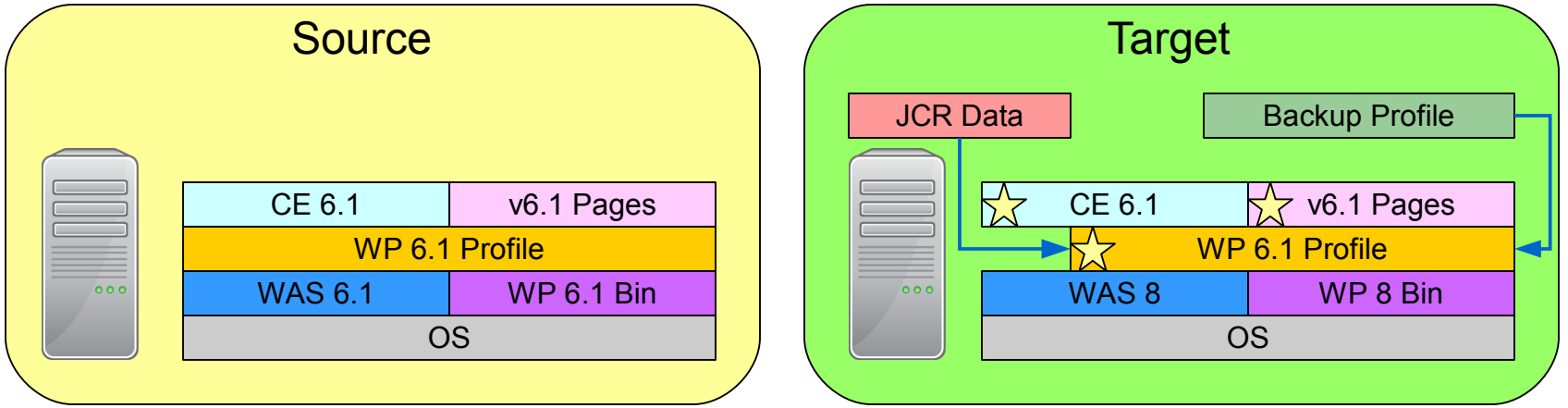

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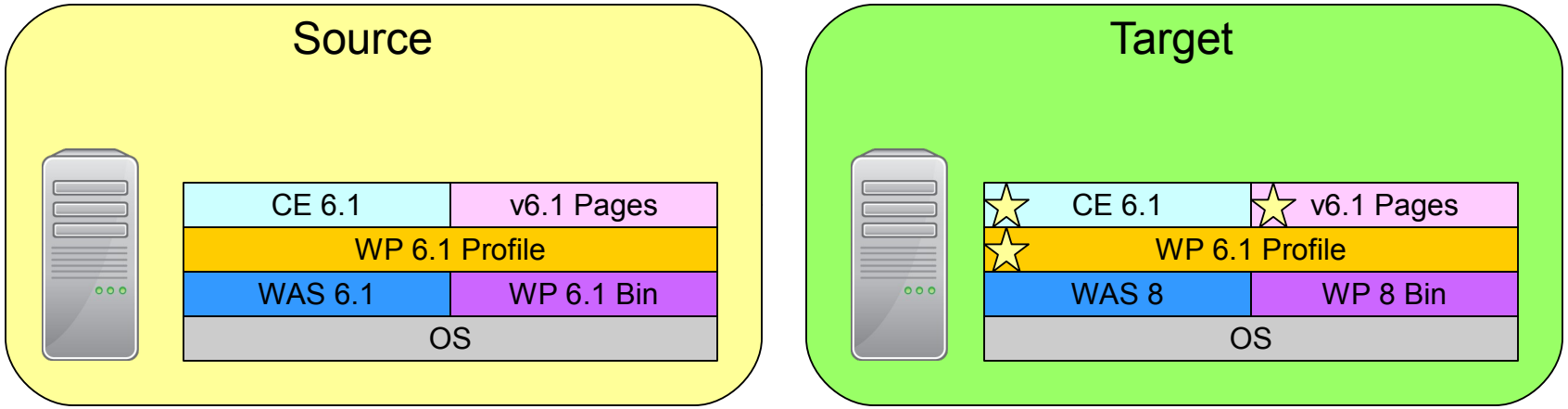

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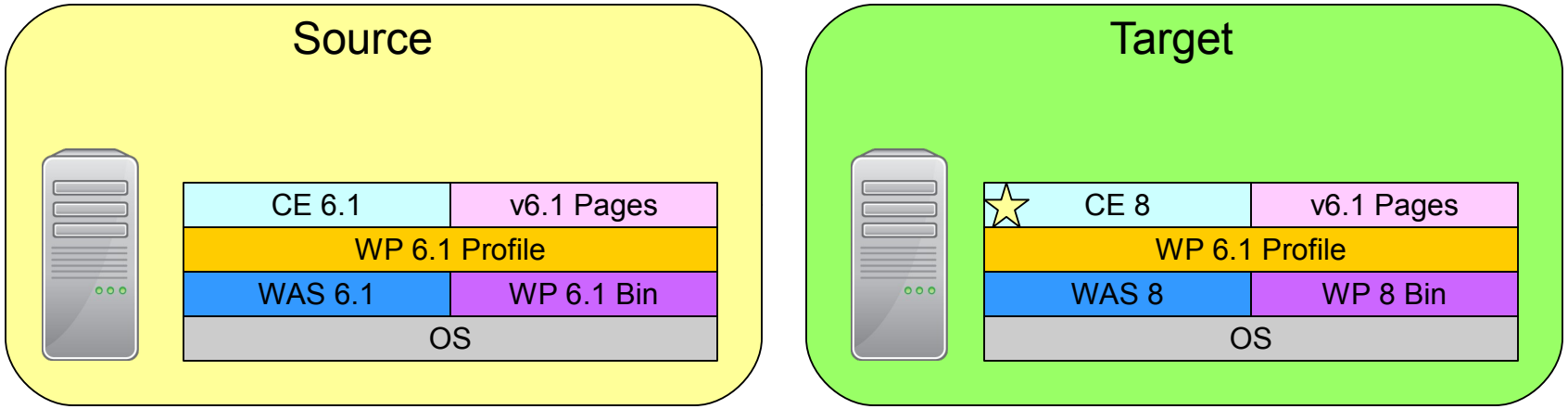
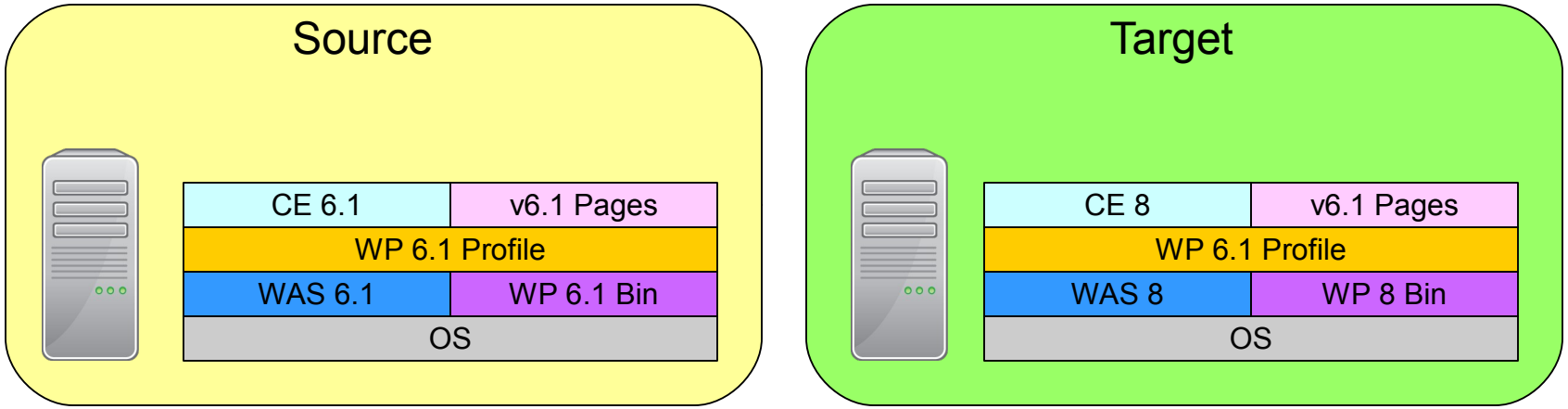
At this point you can start the Portal Server for a sanity check. It should start and serve web pages, but expect to see many errors in the log files.



Best Practices

- Clean up **source** profile and **backup** profile to prevent OOM
  - `wp_profile` should be less than 2GB
  - Temporarily remove JCR Data if needed
- Use appropriate heap size for `WASPreUpgrade` and `WASPostUgprade`
  - Usually 2GB is sufficient, but larger can be used if enough physical memory
- If a local standalone migration, update `serverindex.xml` ports in backup profile to prevent port collisions
- Copy any custom jars or files that will be needed by your target environment



Connect Target Environment to Database Copies

- S: Make copies of the databases
- T: Update the `db_type` and `db_domain` properties files
- T: Run `ConfigEngine validate-database` task
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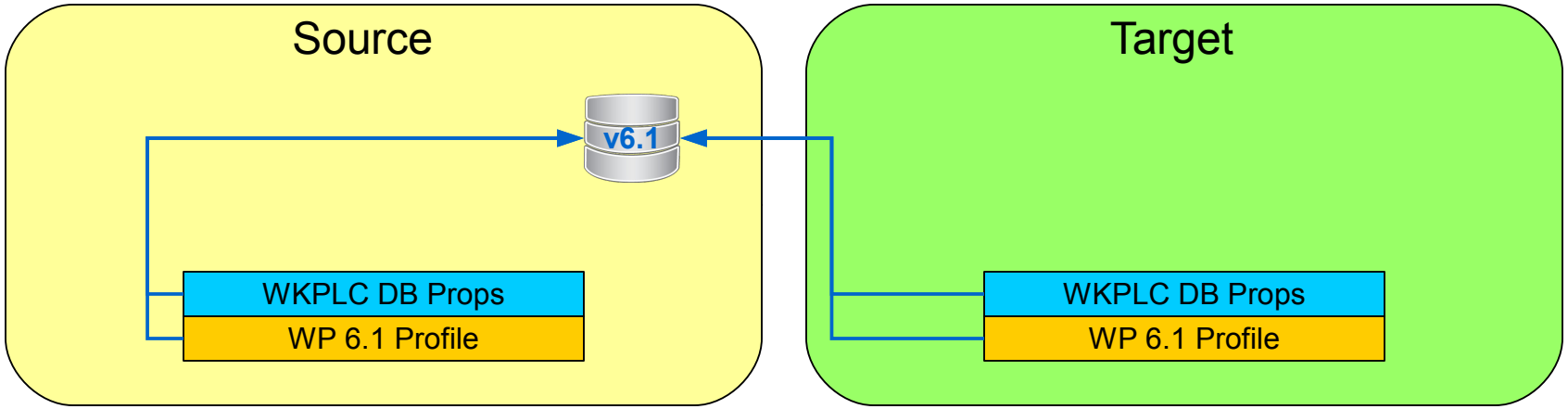
- T: **For z/OS only,** update the database with `ConfigEngine upgrade-database`



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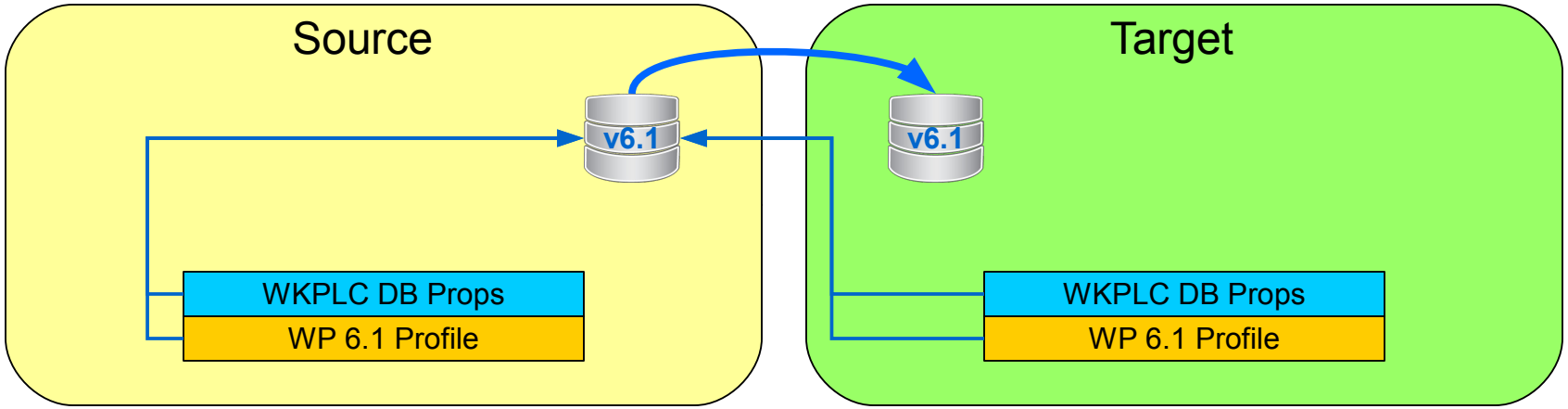

Connect Target Environment to Database Copies

- S: Make copies of the databases
- T: Update the **`db_type`** and **`db_domain`** properties files
  - JDBC 4 drivers are required
- T: Run **`ConfigEngine validate-database`** task
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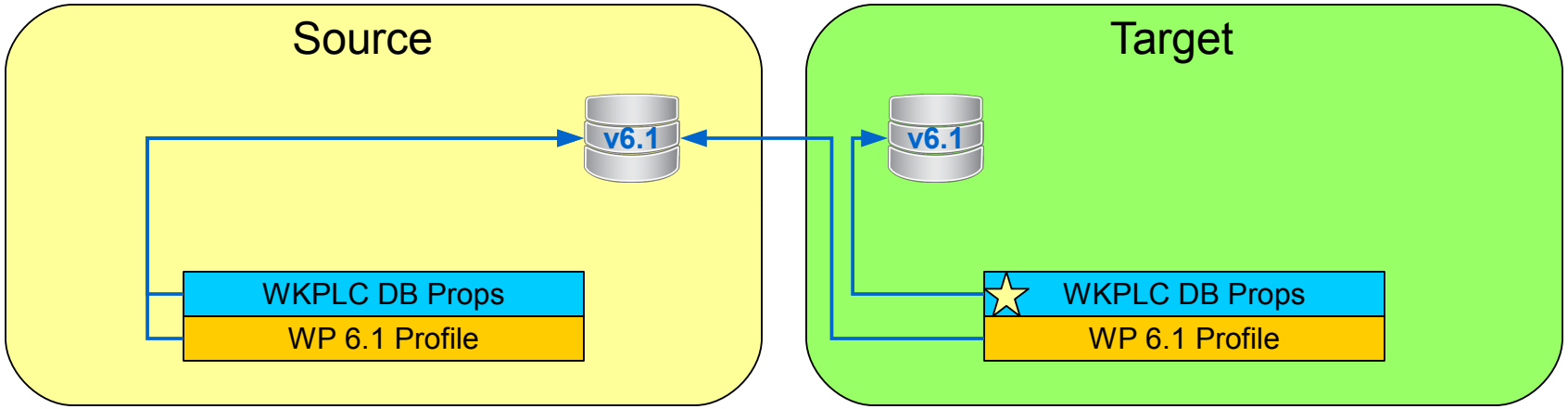

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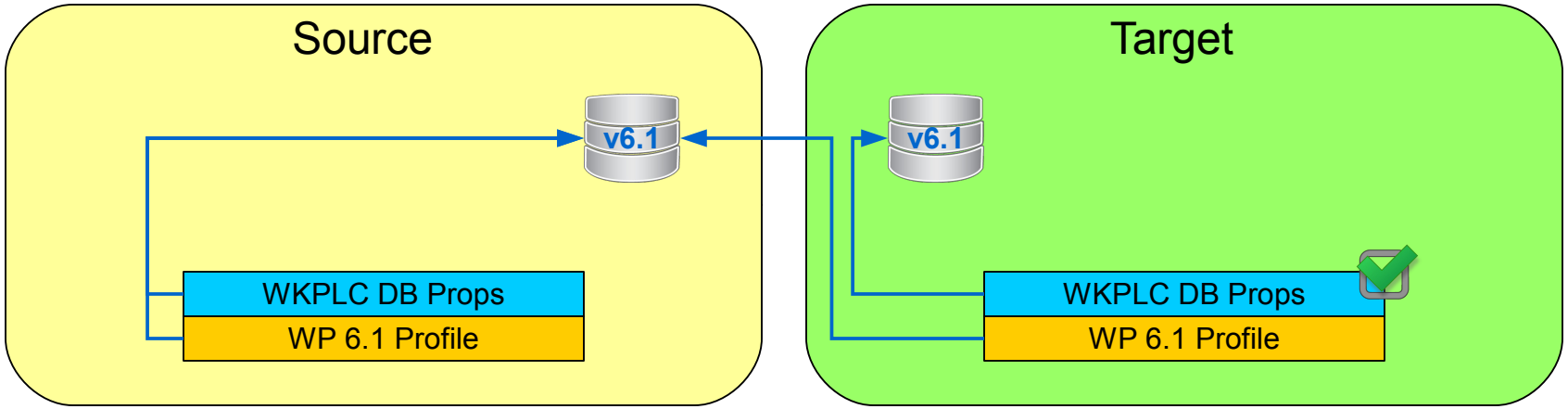

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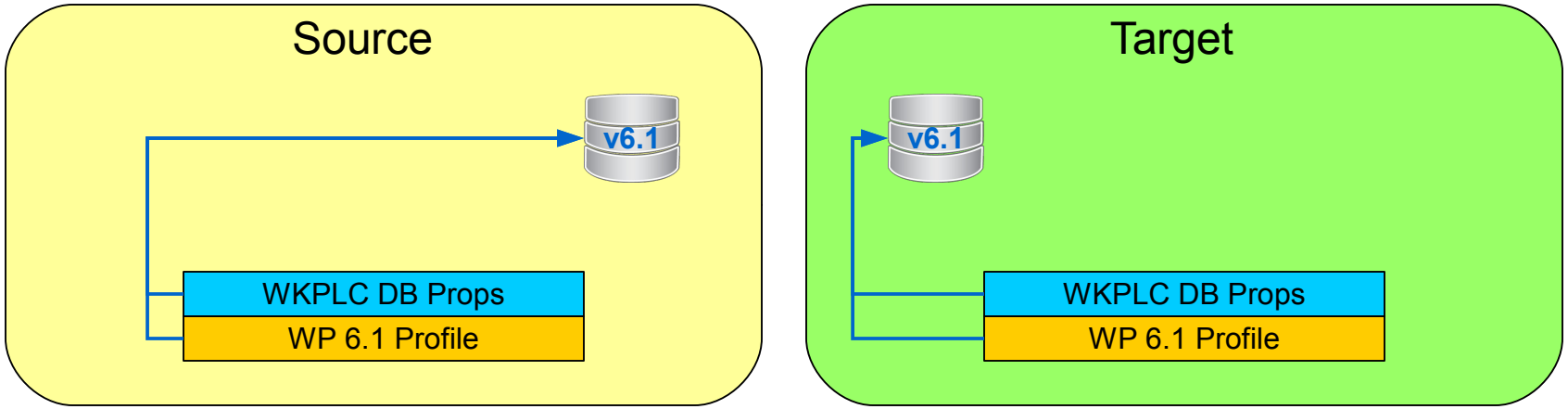

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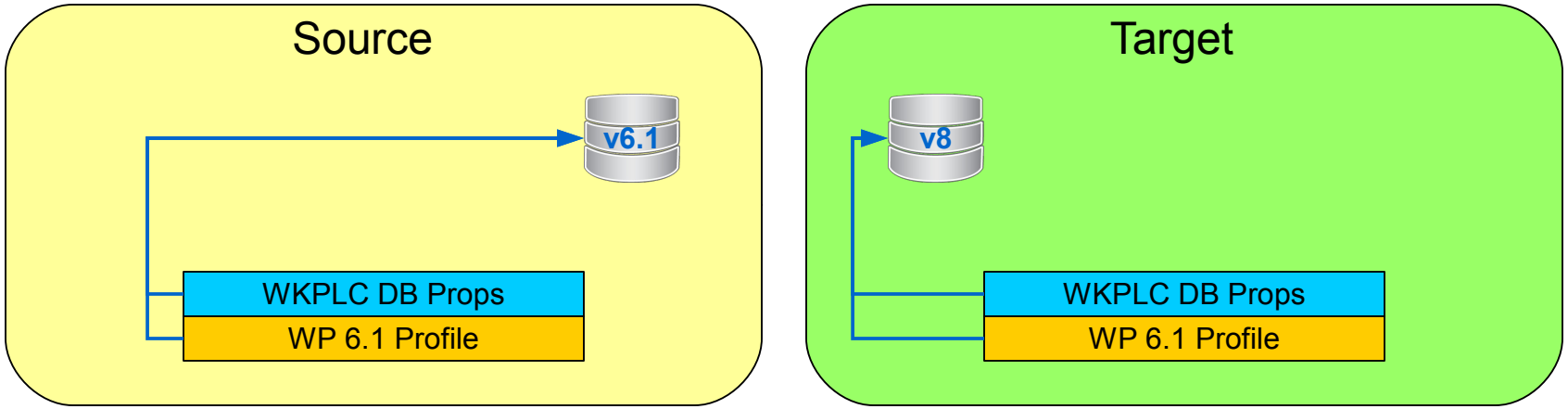
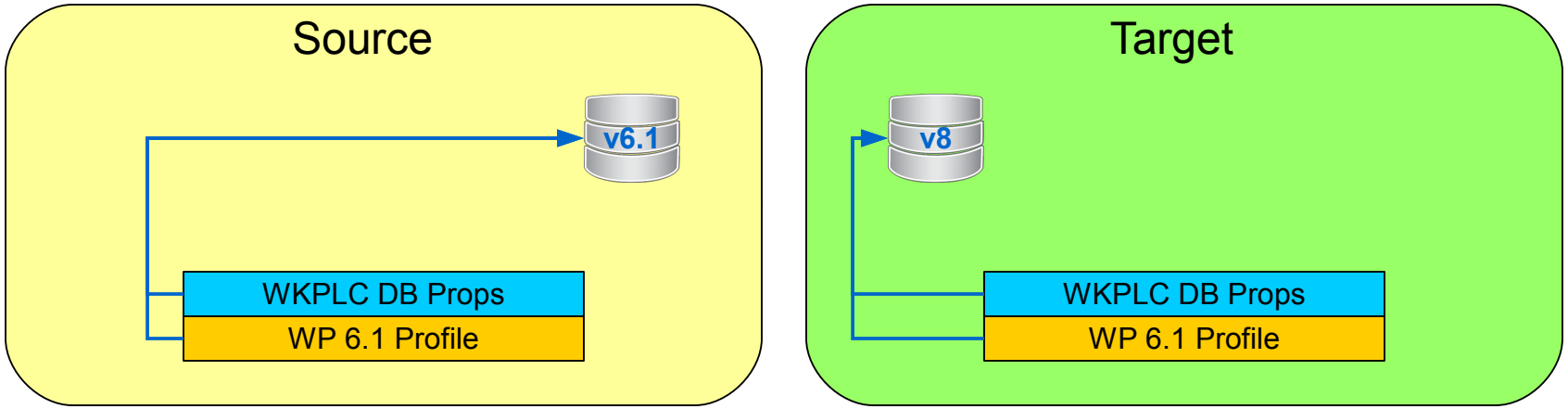


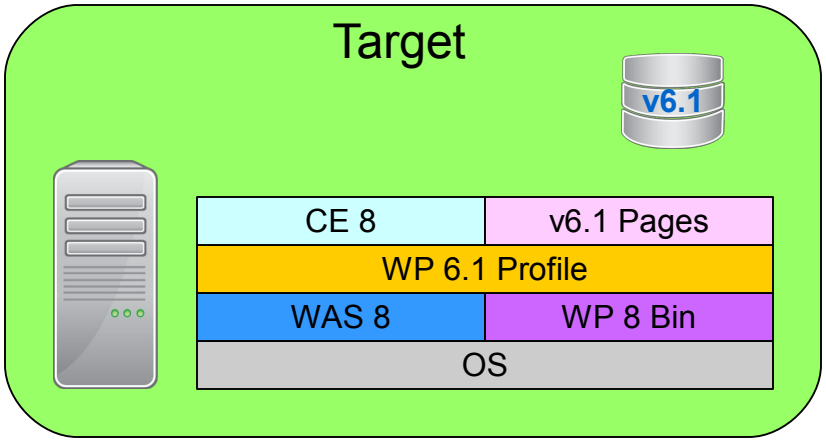
Best Practices

- Use copies of the Databases
- Make sure to update database properties in target environment and specify JDBC 4 drivers
- There are many database updates and the database conversion will generally take the majority of the time
- Invalid or corrupt data may exist in the DB from previous versions or test code so make sure to use latest fix pack



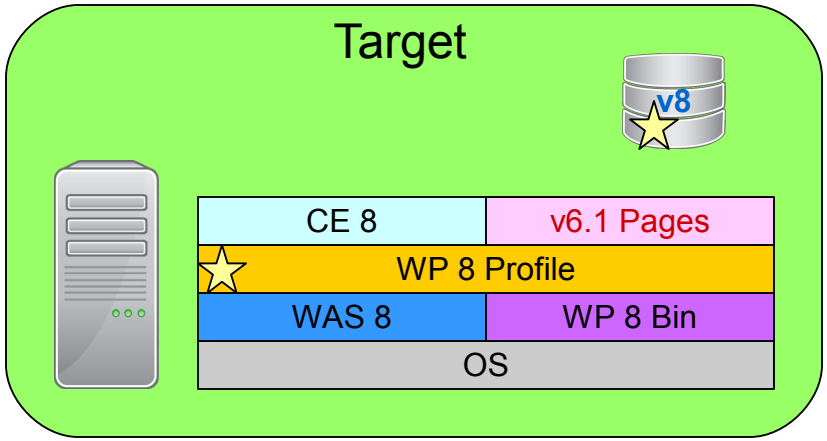
Upgrade the target Portal Profile

- Run `ConfigEngine upgrade-profile`



Upgrade the target Portal Profile

- Run **`ConfigEngine upgrade-profile`**
  - Upgrades profile to v8
  - Upgrades Databases
  - Pages are not modified

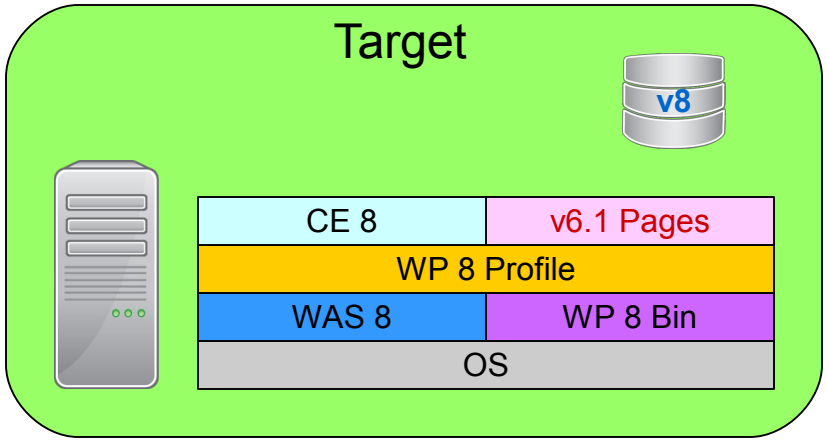


Best Practices

- Restart migration from where it left off with `-Dwp.migration.framework.resume=<resume point>`

  Example: `-Dwp.migration.framework.resume=deploy-apps`

- For troubleshooting, use `-DskipCleanup="true"` to preserve work folder
- If using both parameters, make sure to clean the contents of `wp_profile/ConfigEngine/config/work`
- **Content-Only Migration is not supported in Portal 8**



Post Migration Tasks

- Always complete post migration tasks before enabling new features
- Update hard-coded paths of Custom Themes
  - Custom themes in v6.1 wps.ear are placed in Migrated_Themes.ear retain original context root (default: **`wps`**)
  - New wps.ear is bound to <org>_migrated (default: **`wps_migrated`**)
  - Context-root for Migrated_Themes.ear must be updated before wps.ear
- Update Default Portal 8 Themes
  - **`ConfigEngine action-upgrade-theme-admin-oob`**
  - **`ConfigEngine action-upgrade-wcm-theme-admin-oob`**
- Regression and Performance Testing
- Develop and deploy updated themes
- Re-Enable Automatic Synchronization
- Update data using **`wcm-post-migration-data-update`**
  - **Must be done before enabling managed pages and migrating virtual portals**
- Refer to the wiki for many other Post Migration Tasks

Cluster Migration

- Migrate DMGR profile
- Stop source DMGR and node agents
- Migrate node profiles
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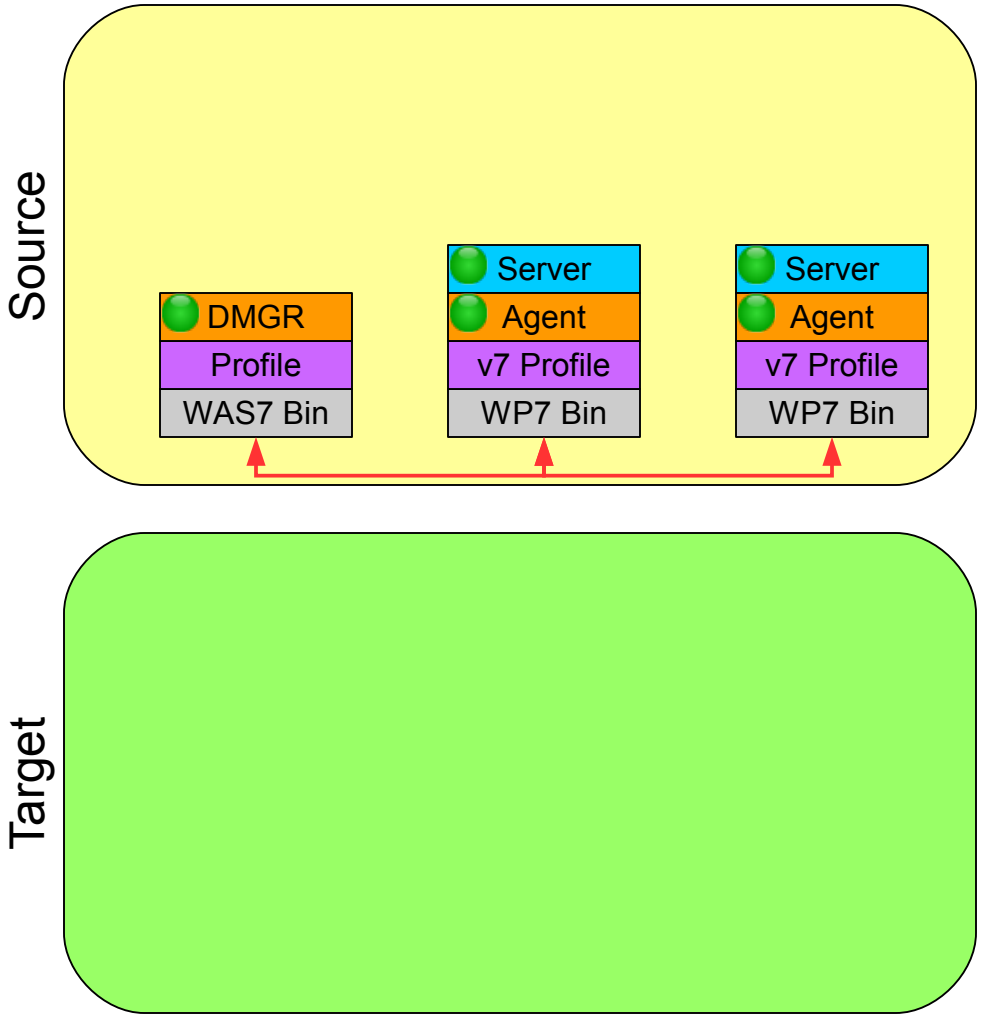

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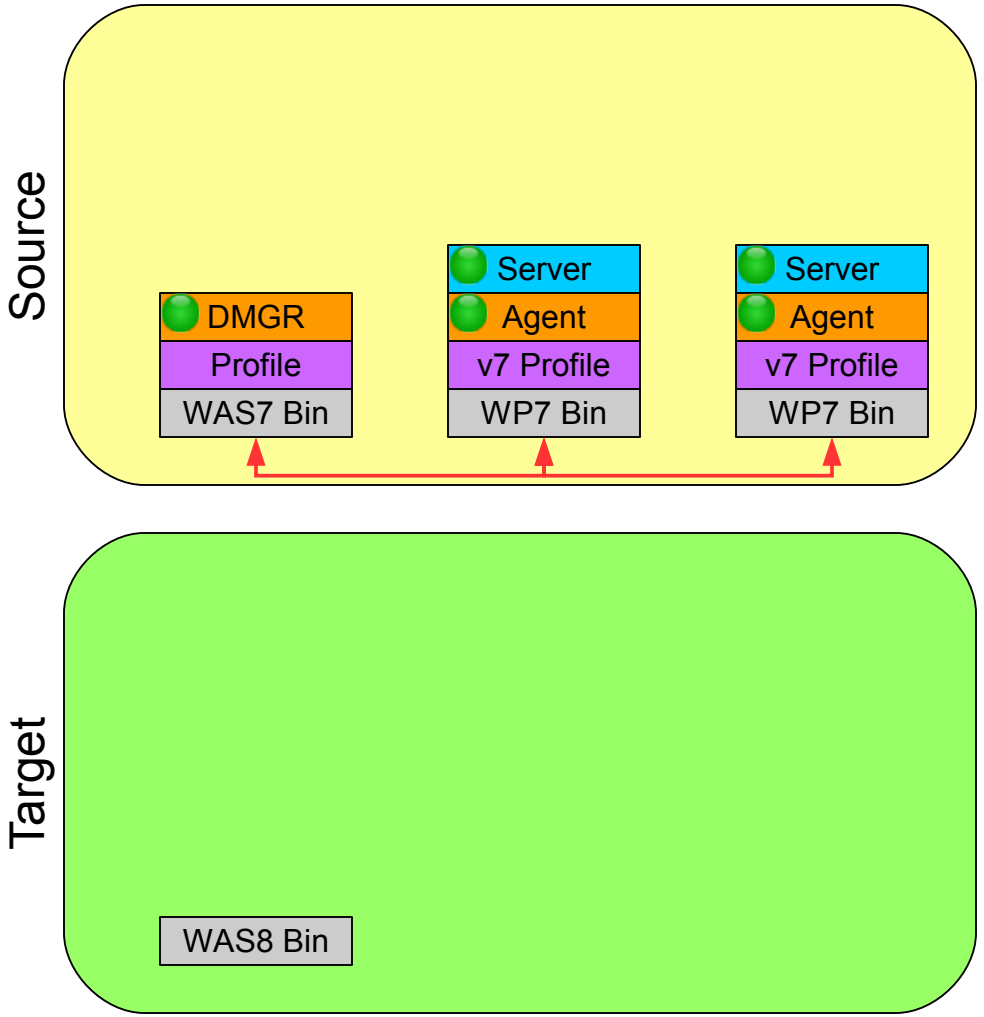

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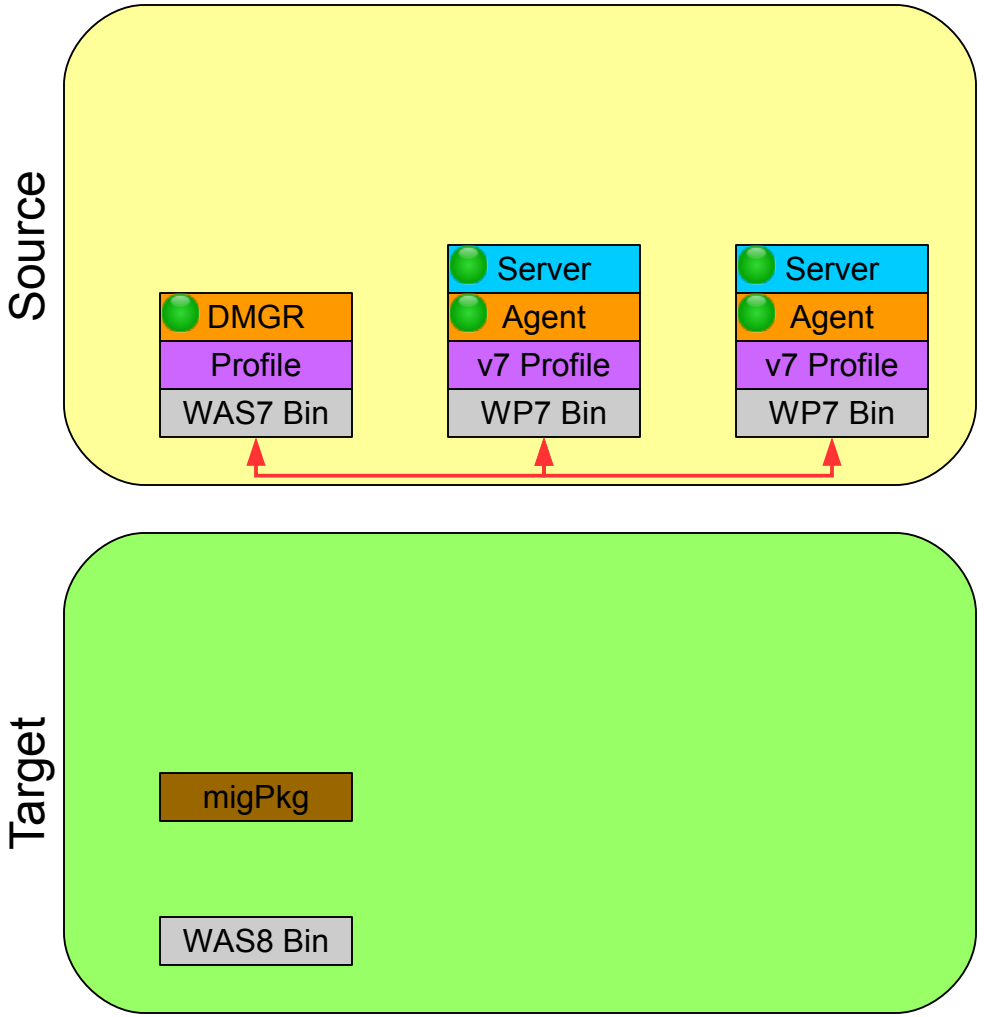

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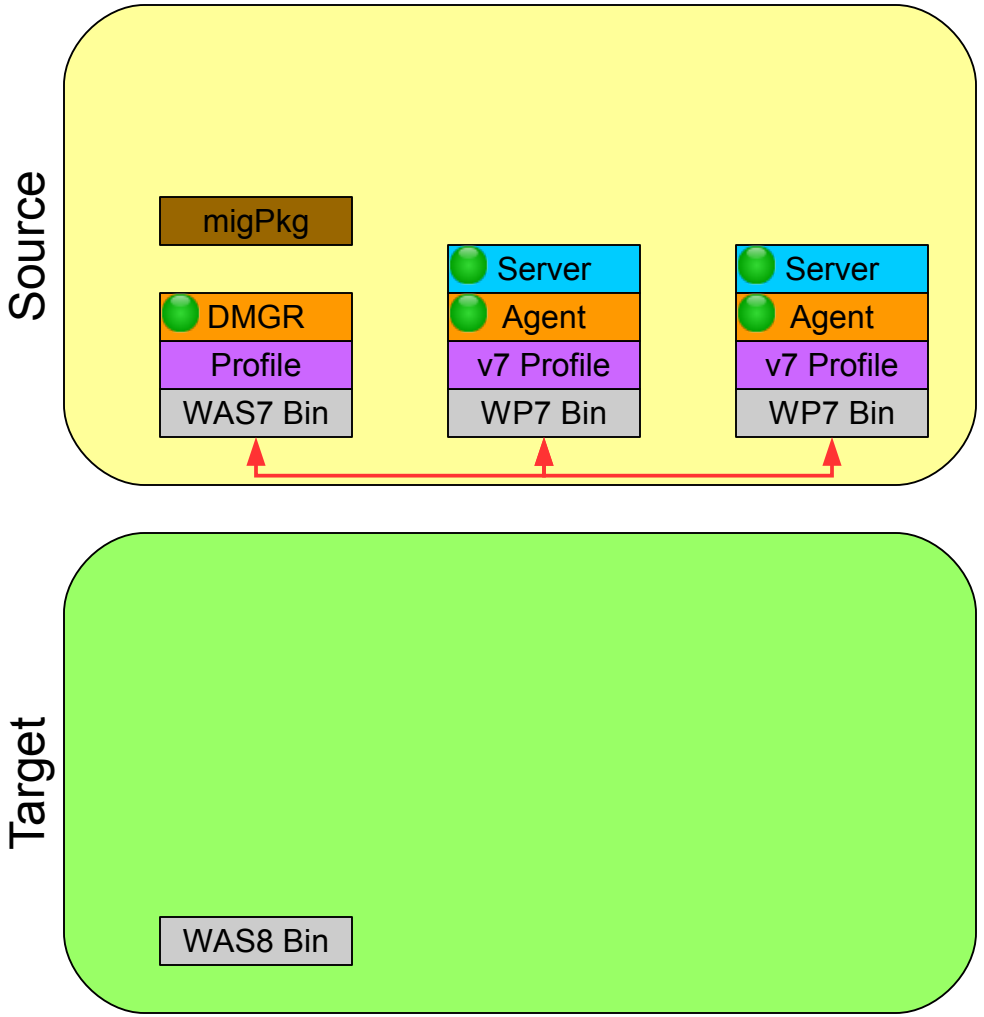

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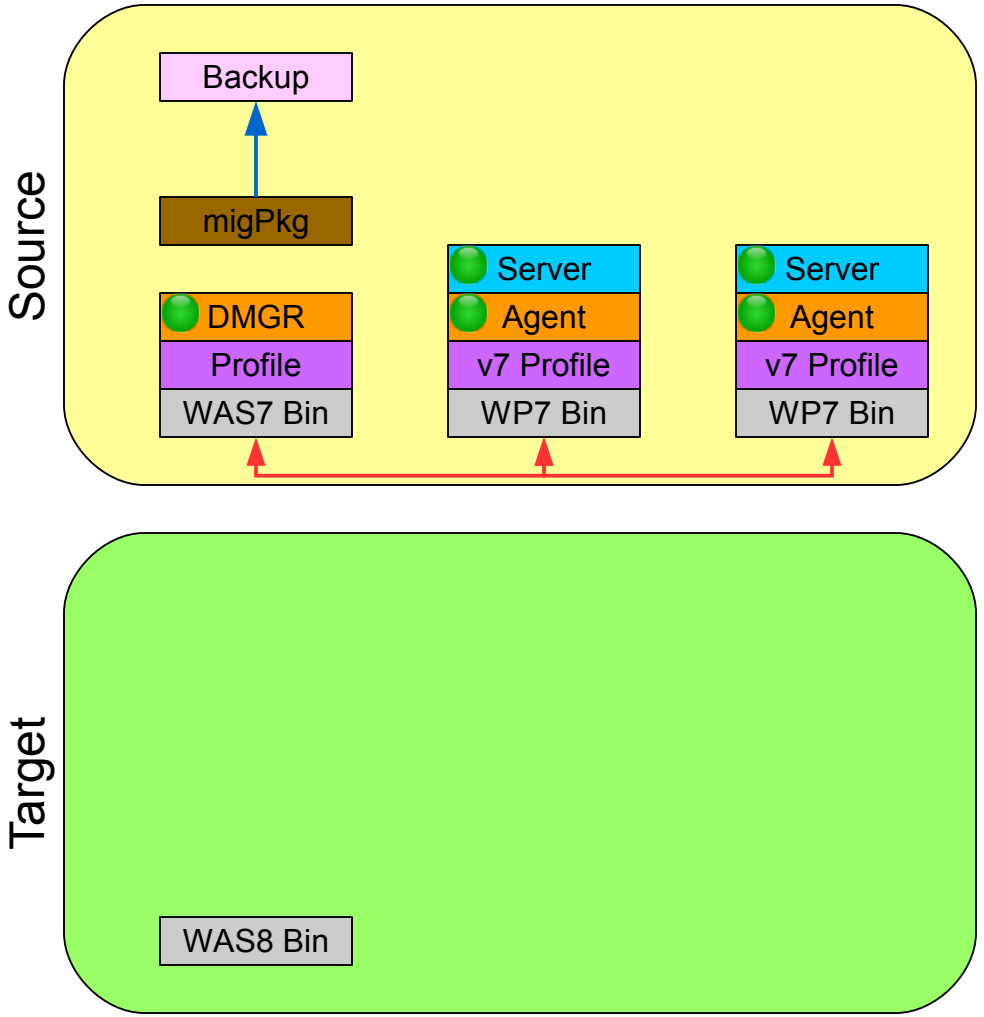

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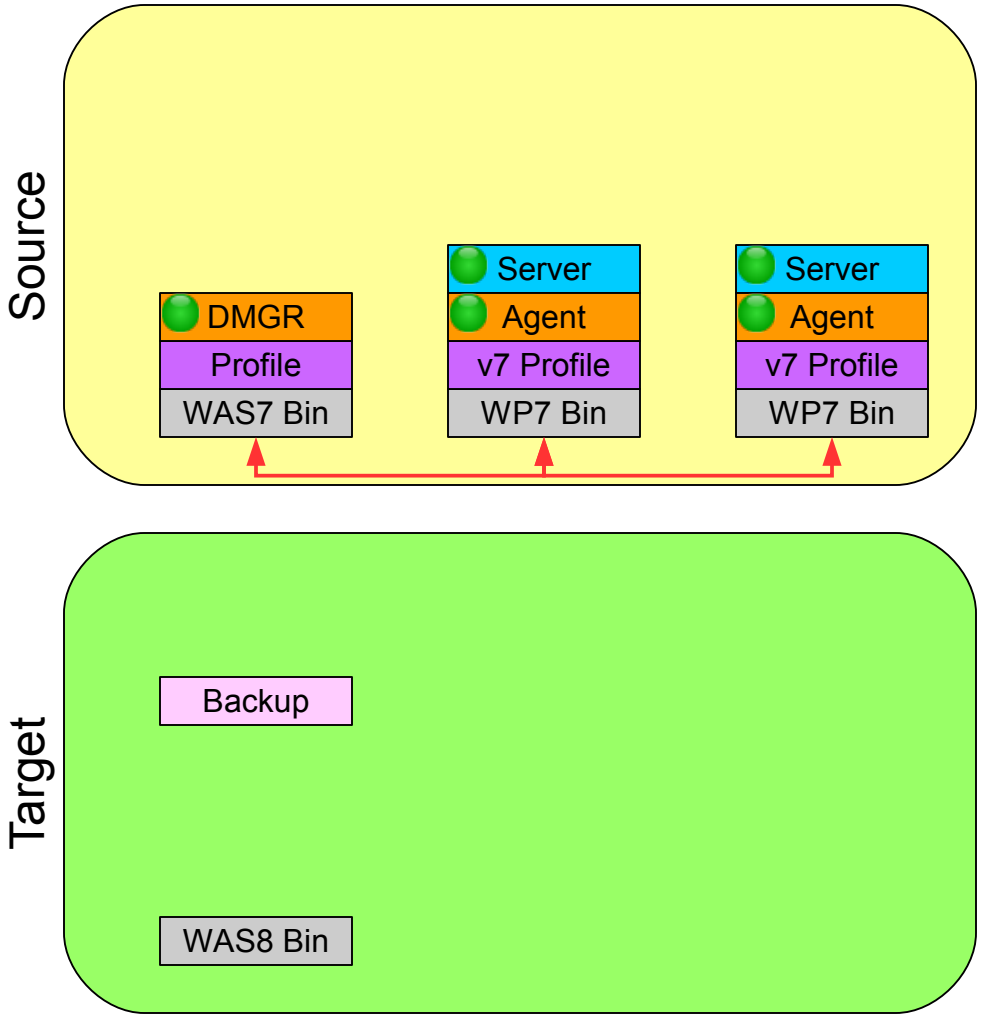

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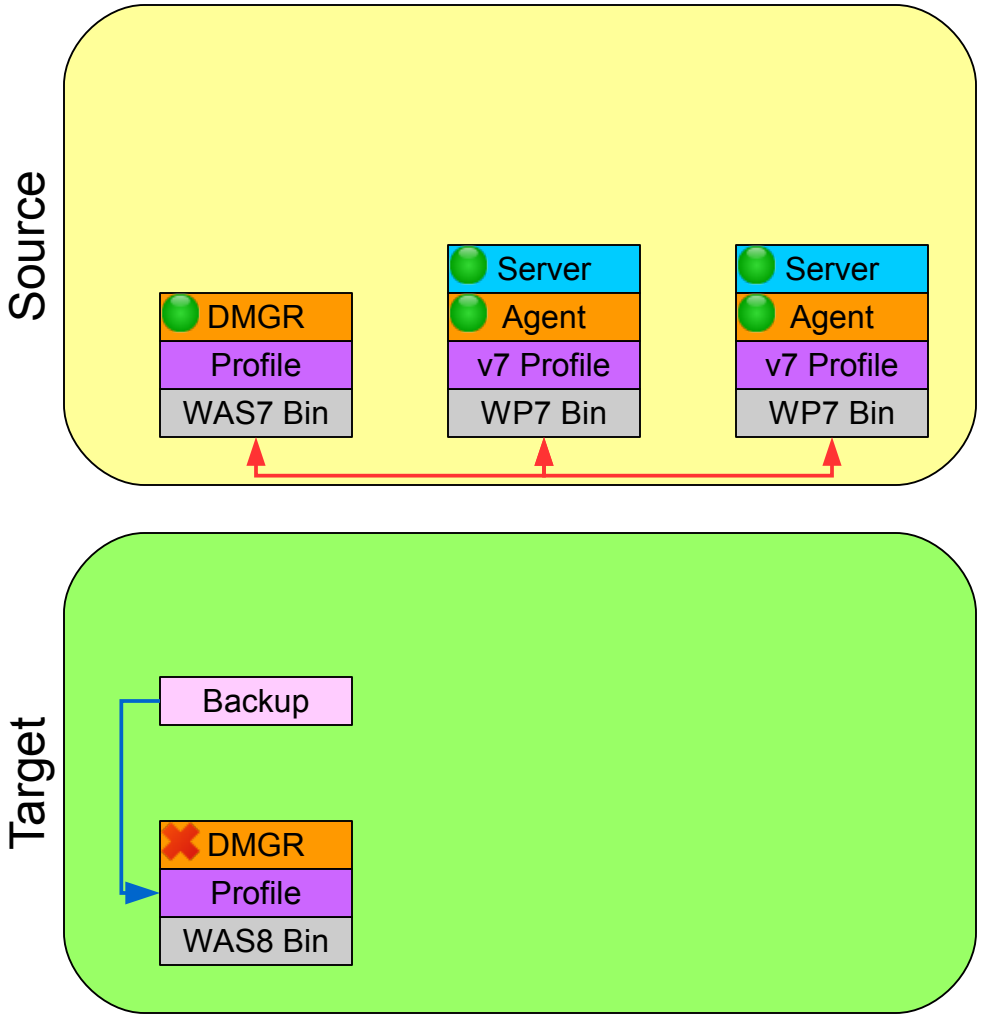

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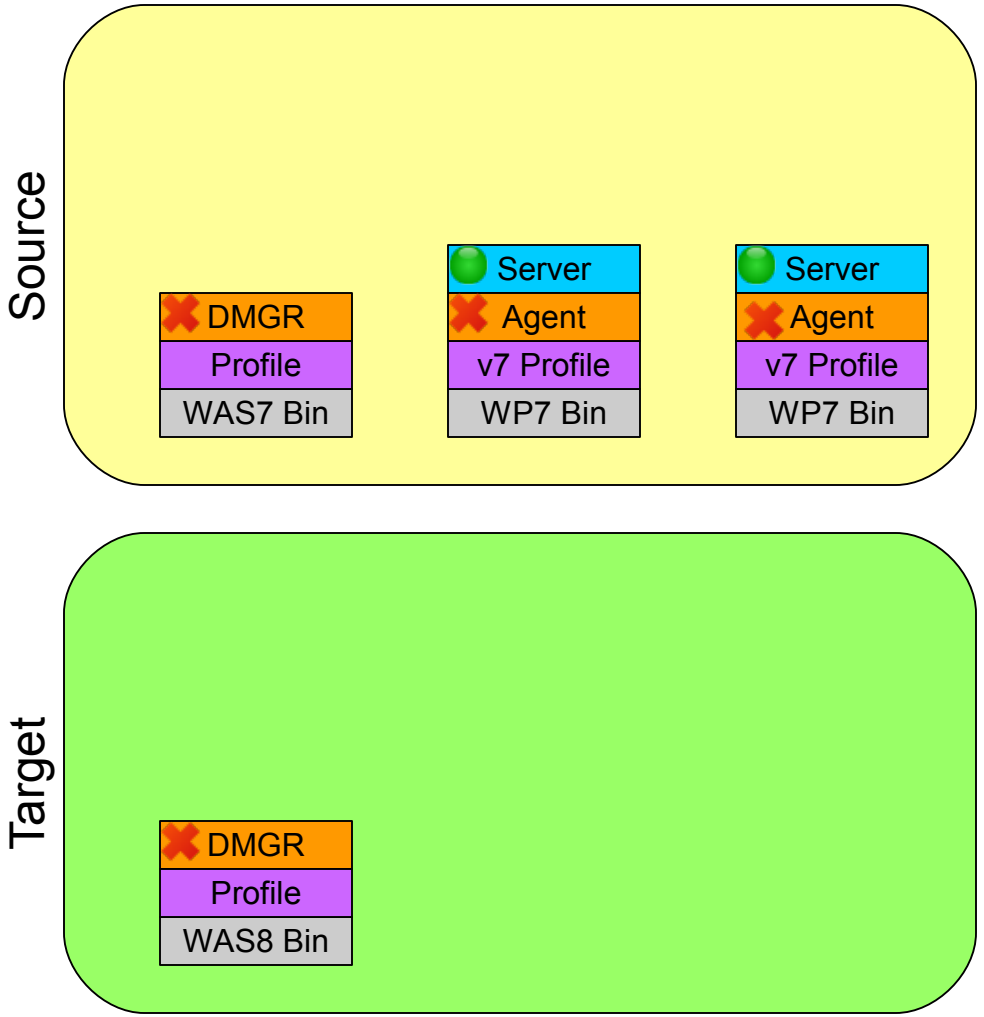

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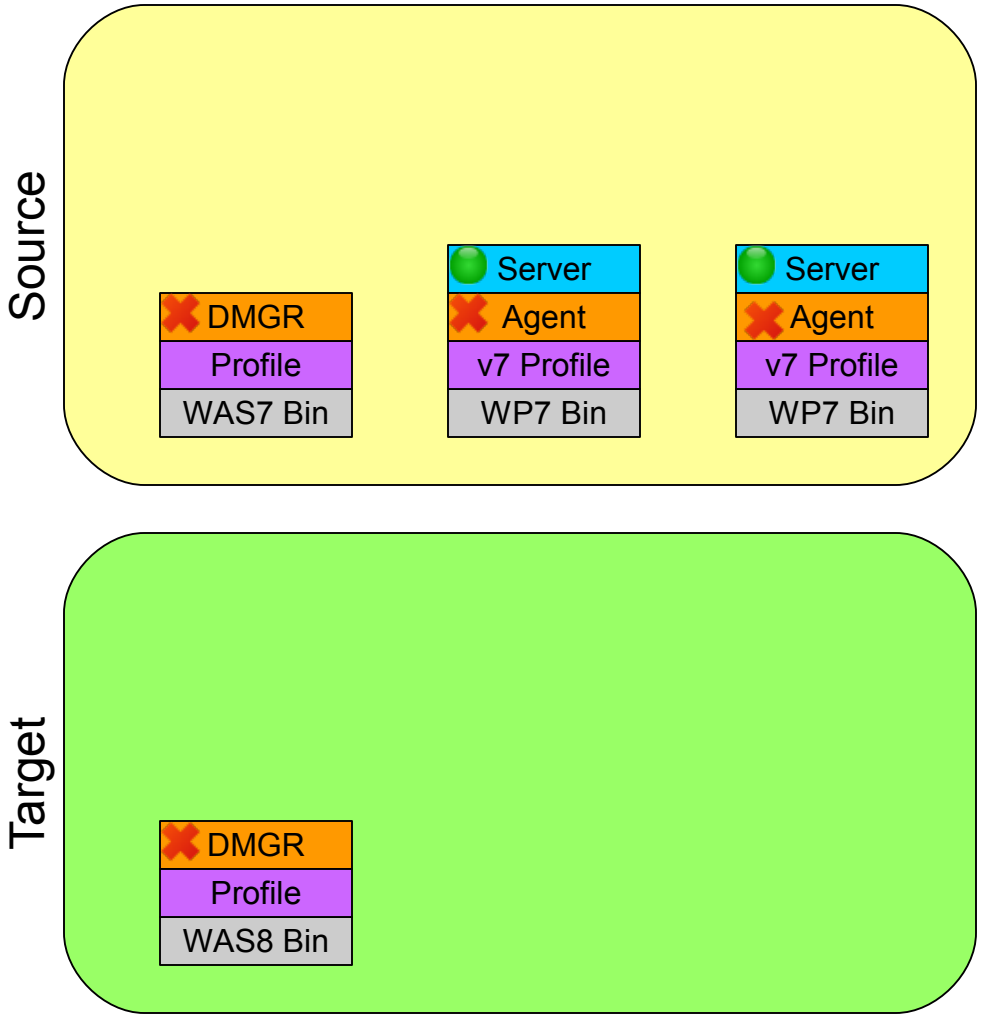

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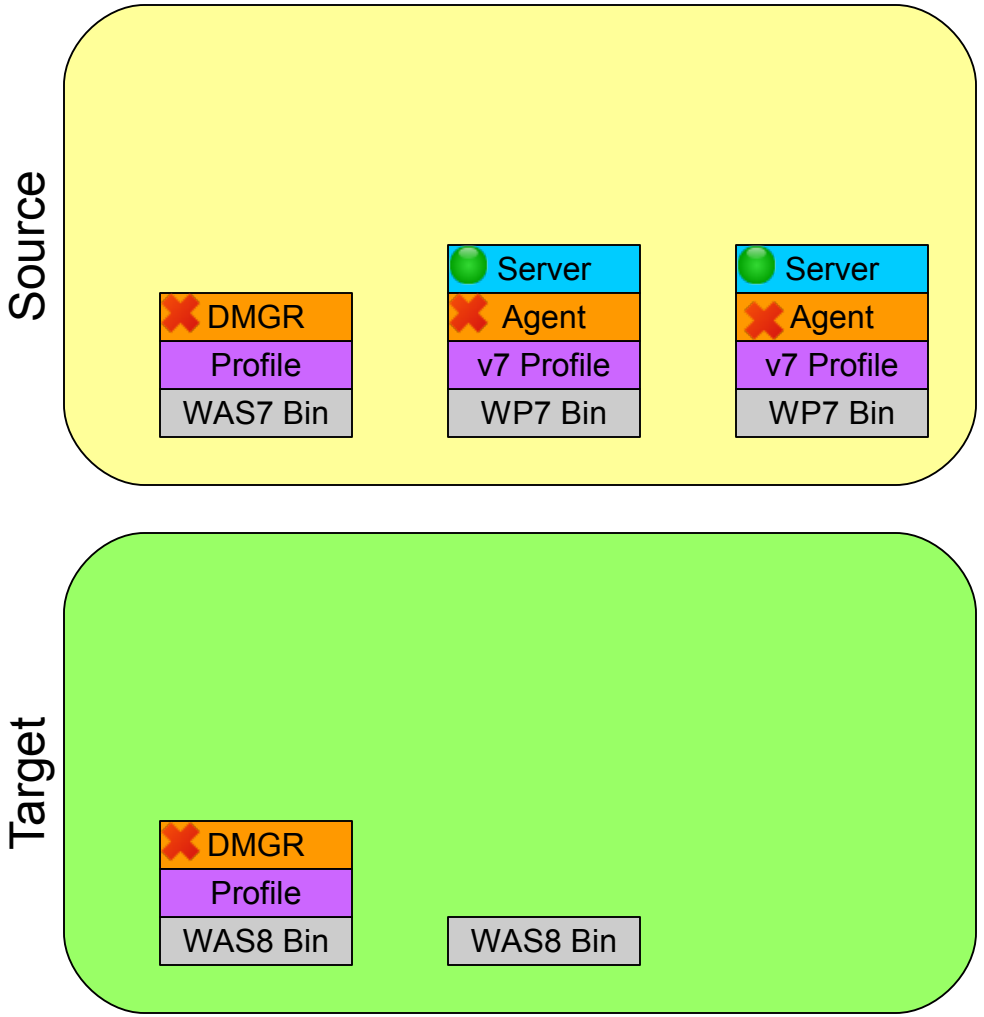

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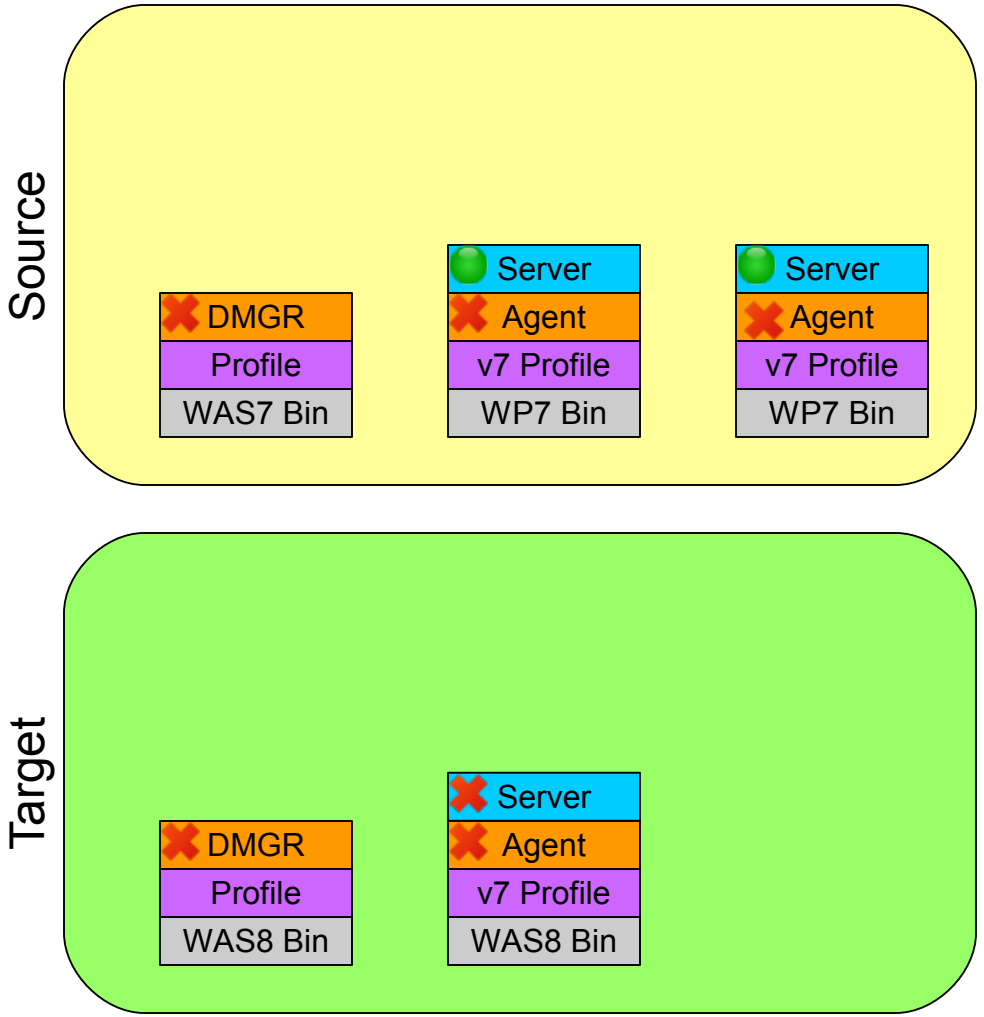

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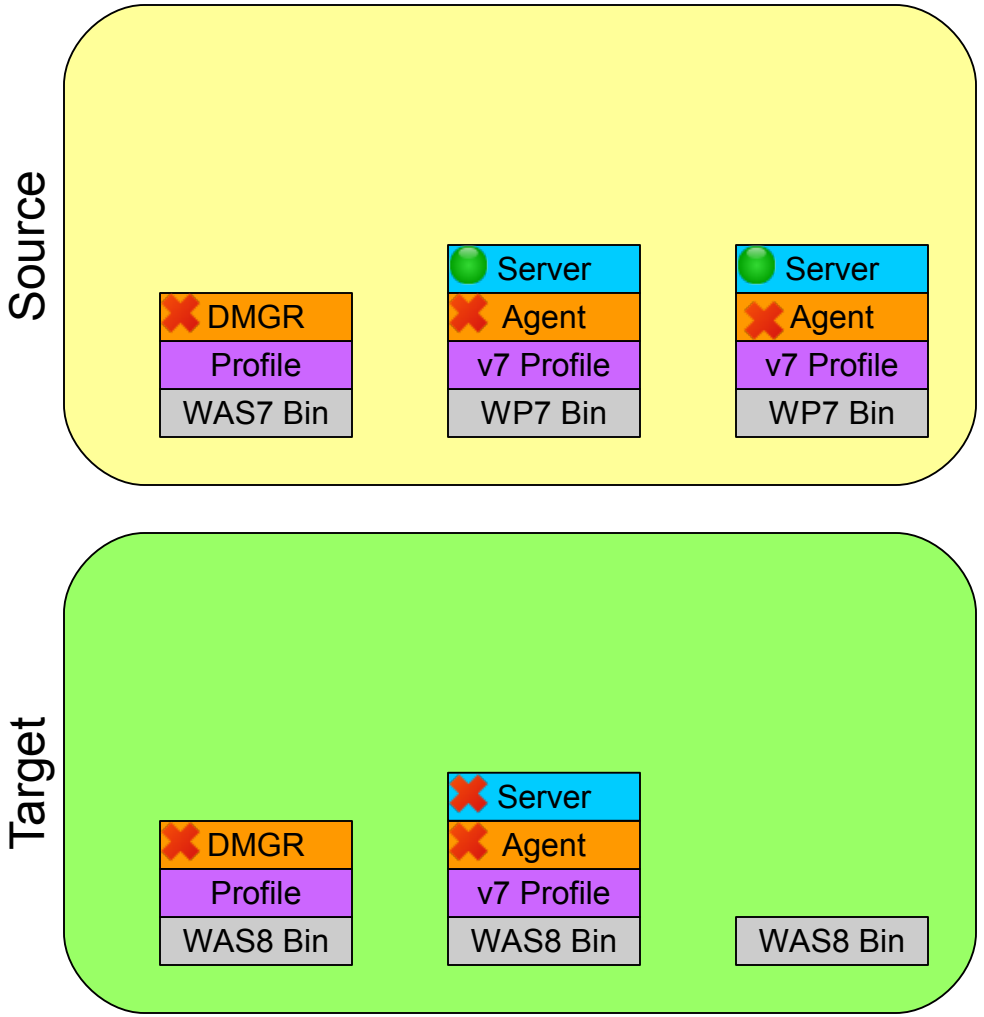

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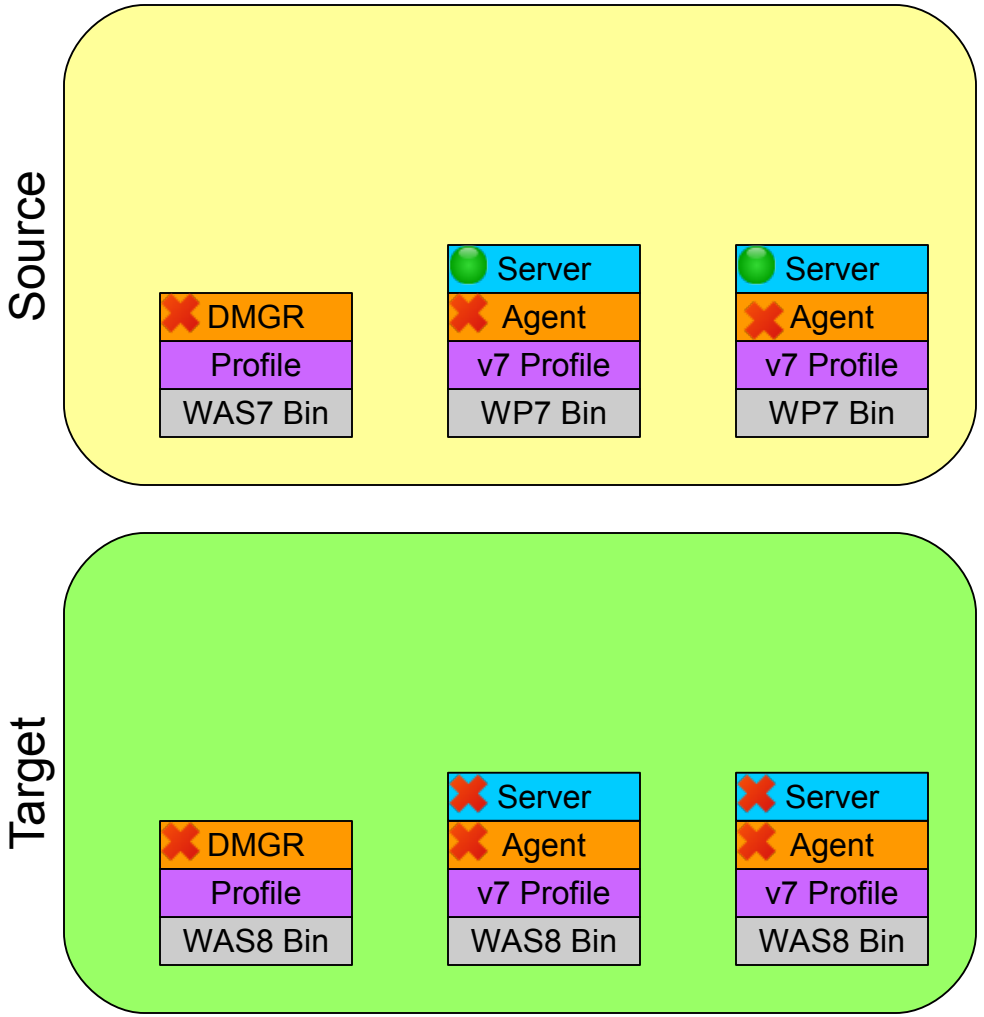

Cluster Migration

- Migrate DMGR profile
- Stop source DMGR and node agents
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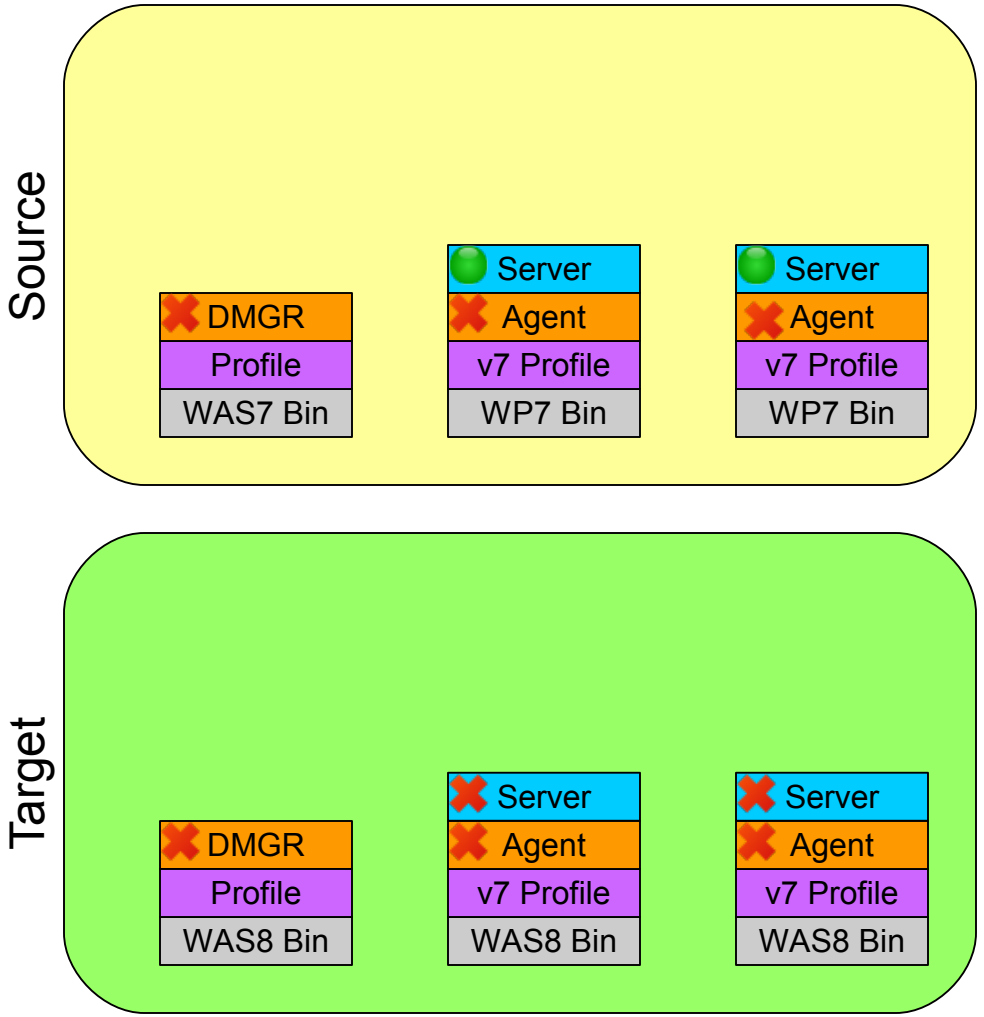
- Set up unique ports
  - Start DMGR/Node Agents
  - Update ports in ISC
  - Fully re-synchronize
  - Restart DMGR/Node Agents
- Complete node migrations



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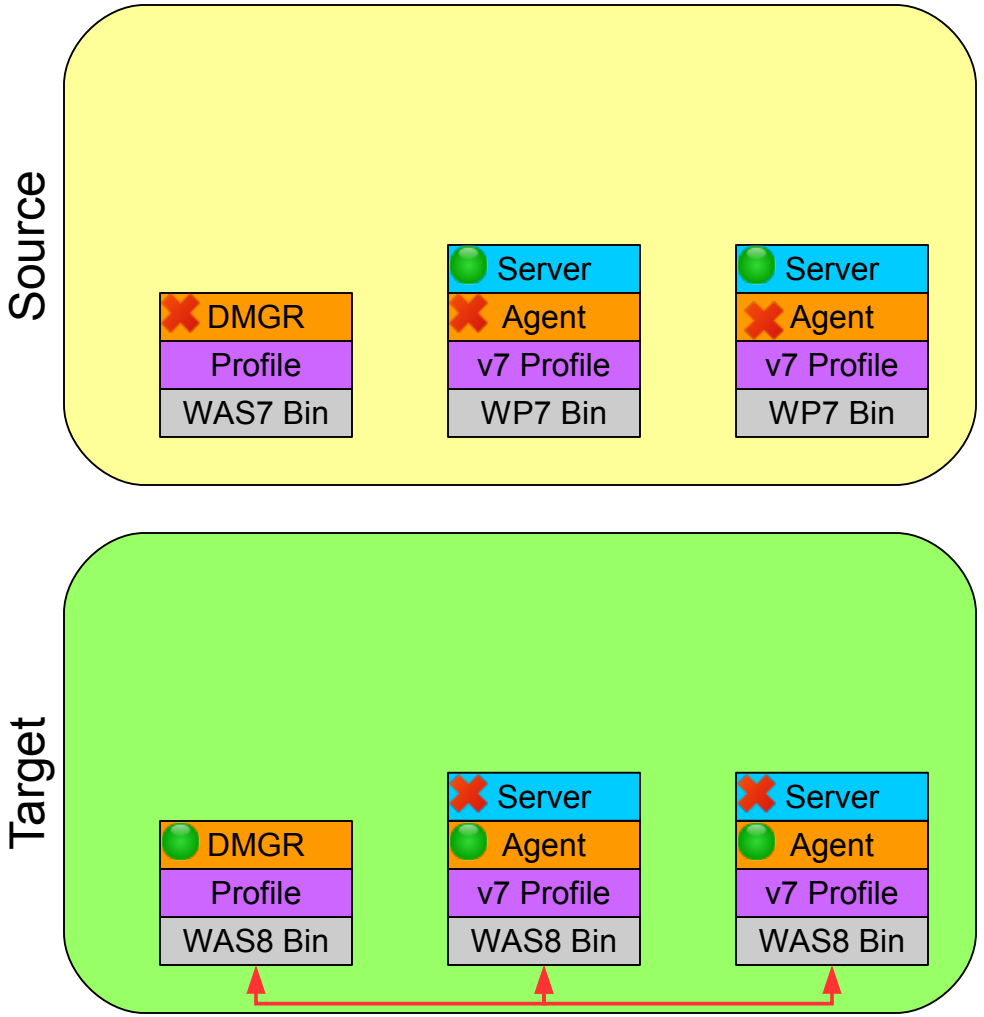

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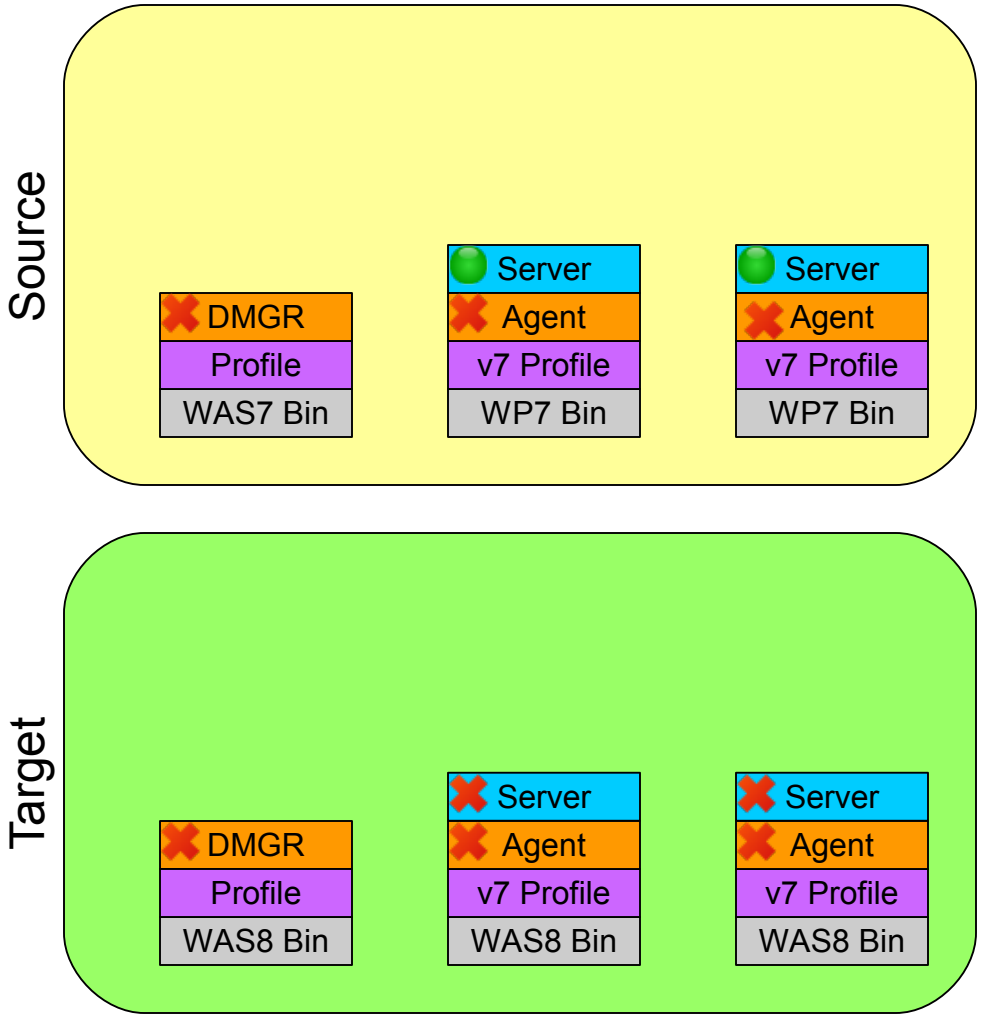

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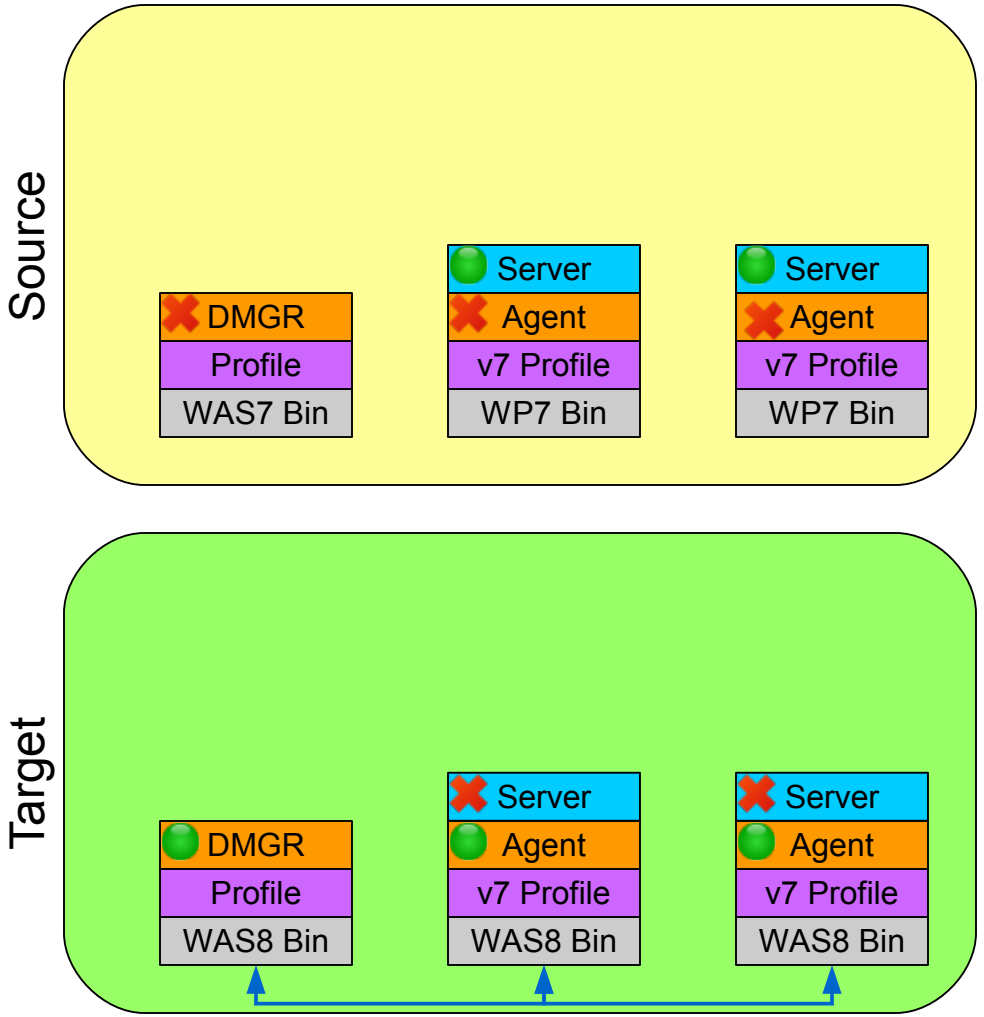

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  - Upgrade ConfigEngine
  - Connect to DB Copies
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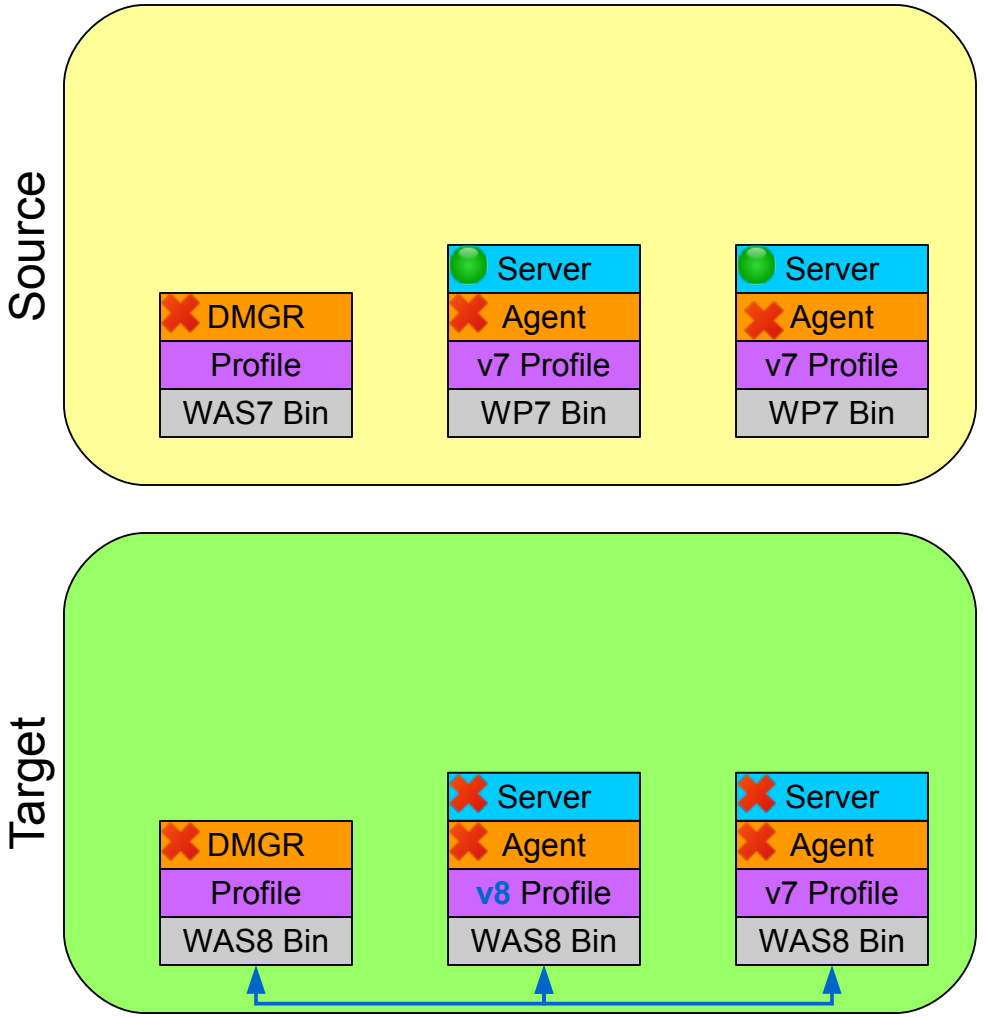
  - Restart Source Env
  - Post migration tasks



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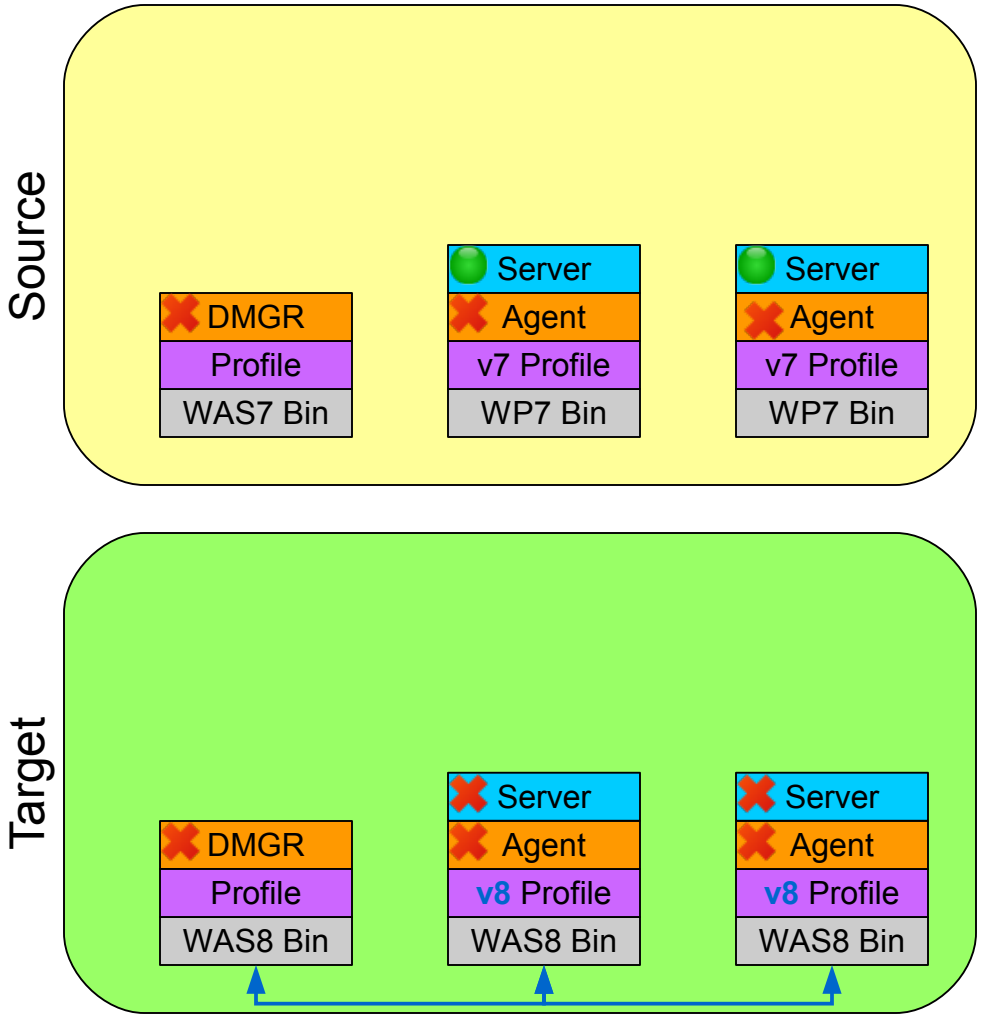

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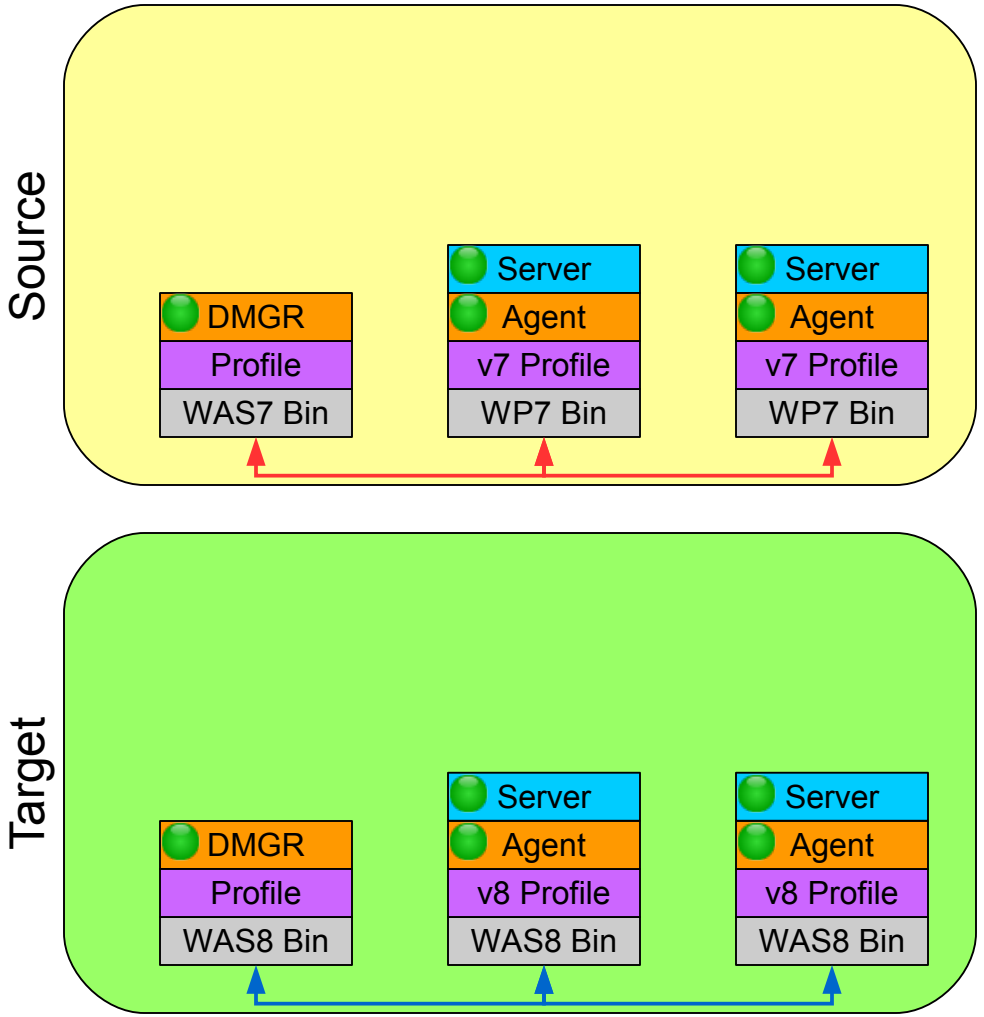
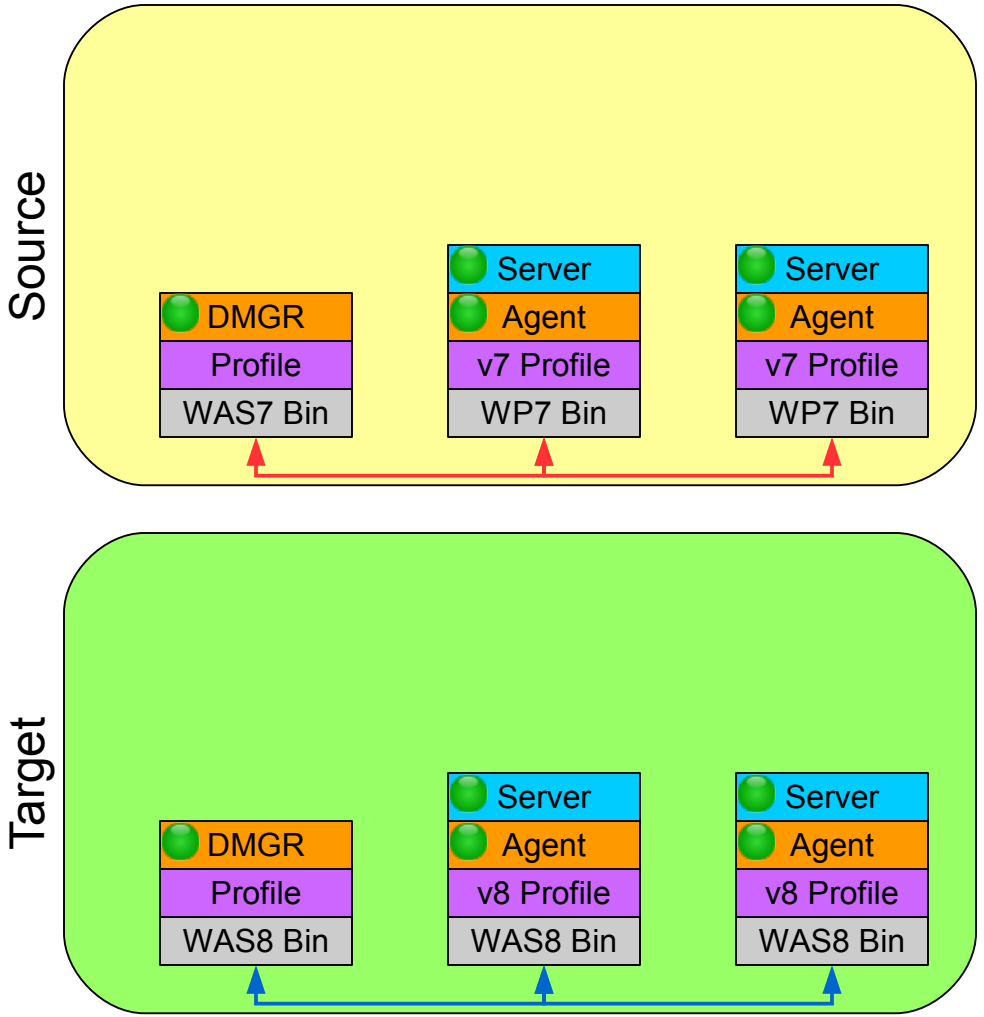


Best Practices

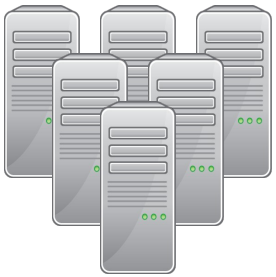
- Make sure AutoSync is disabled
- Make sure the Source DMGR/Node Agents are stopped
- Don't forget to set up unique ports



Migration Strategies

- Scenario 1: Tiered Environment

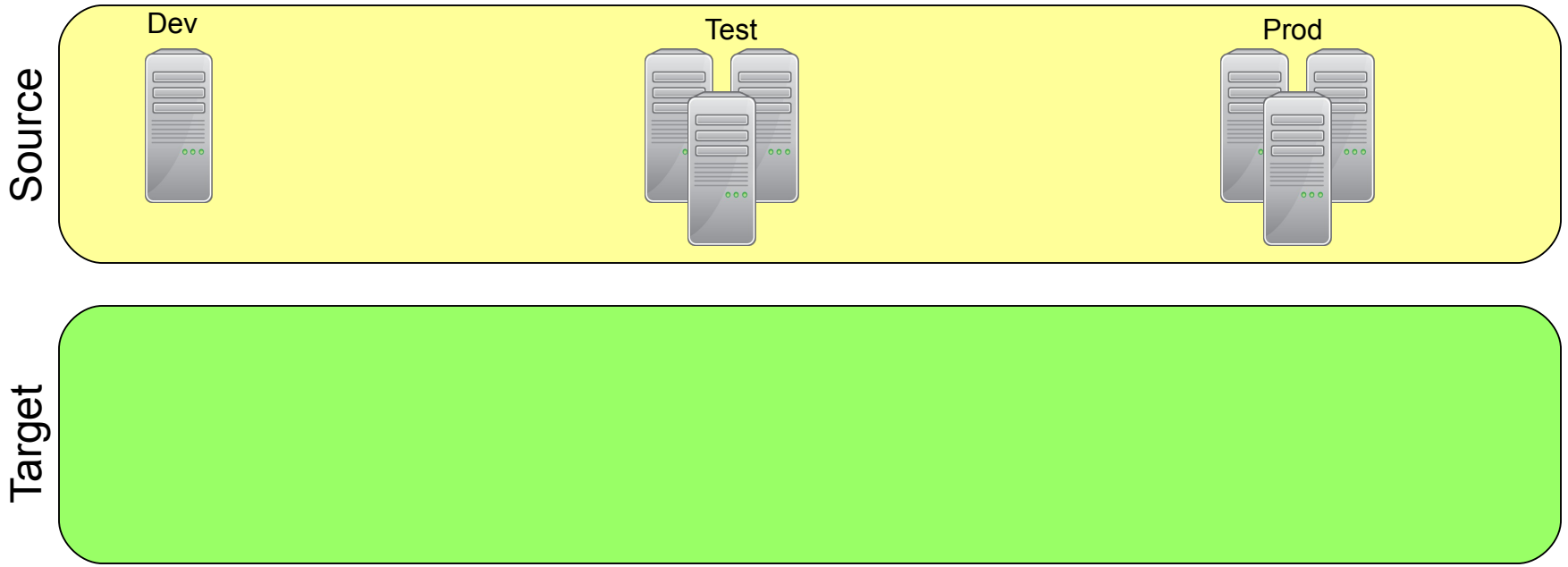
- Scenario 2: Large Cluster



- Scenario 3: Locked-down Environment

Tiered Environment

- Make sure lowest tier standalone server has most current content
- Migrate lowest tier
- Build out the rest of the environments using s2p and RB



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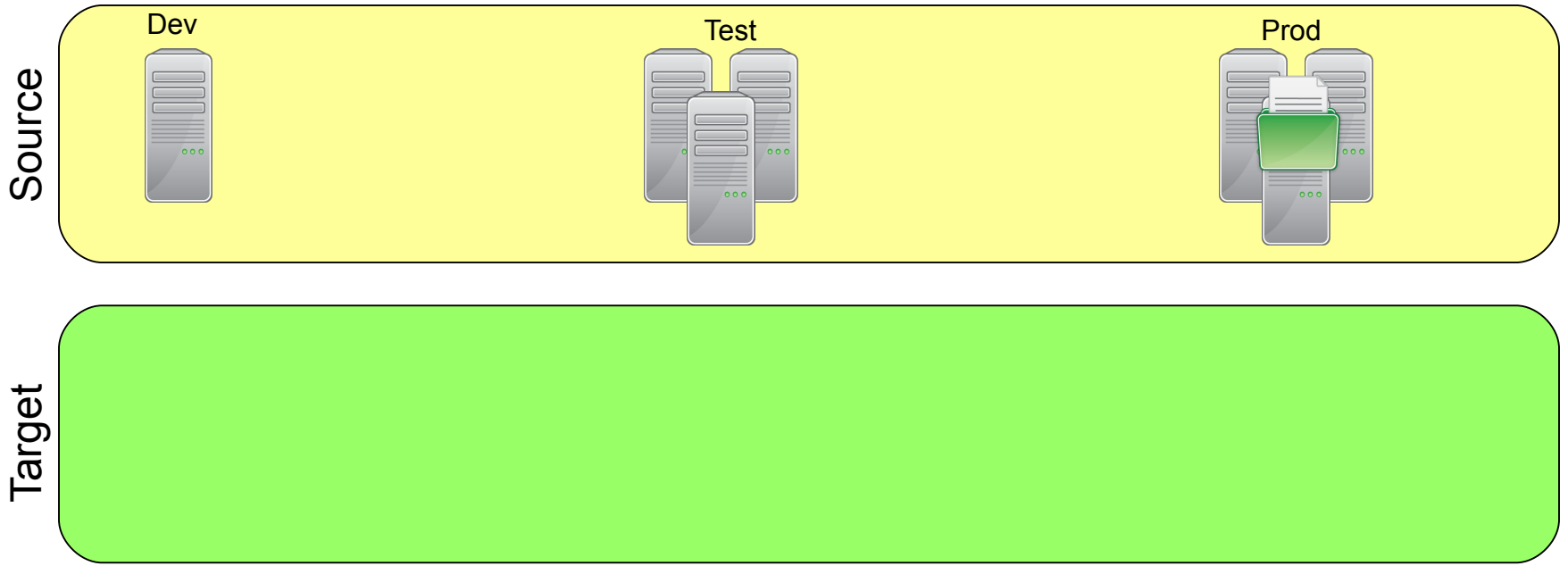

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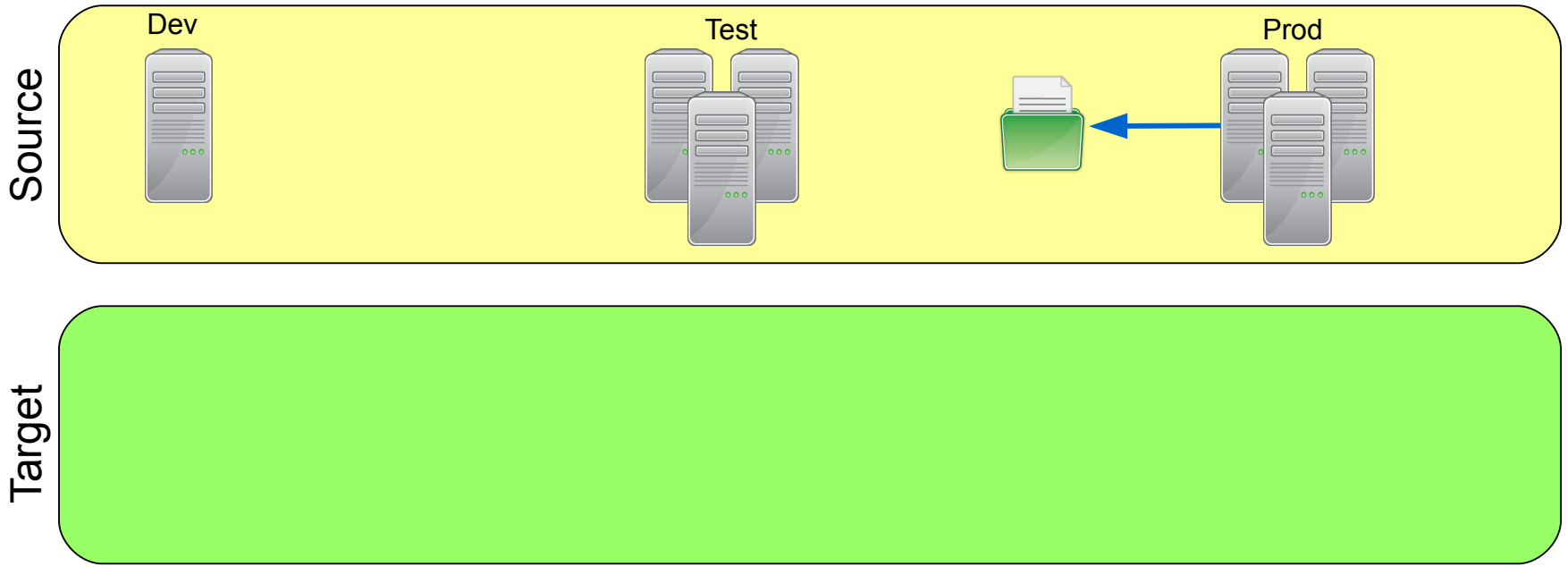

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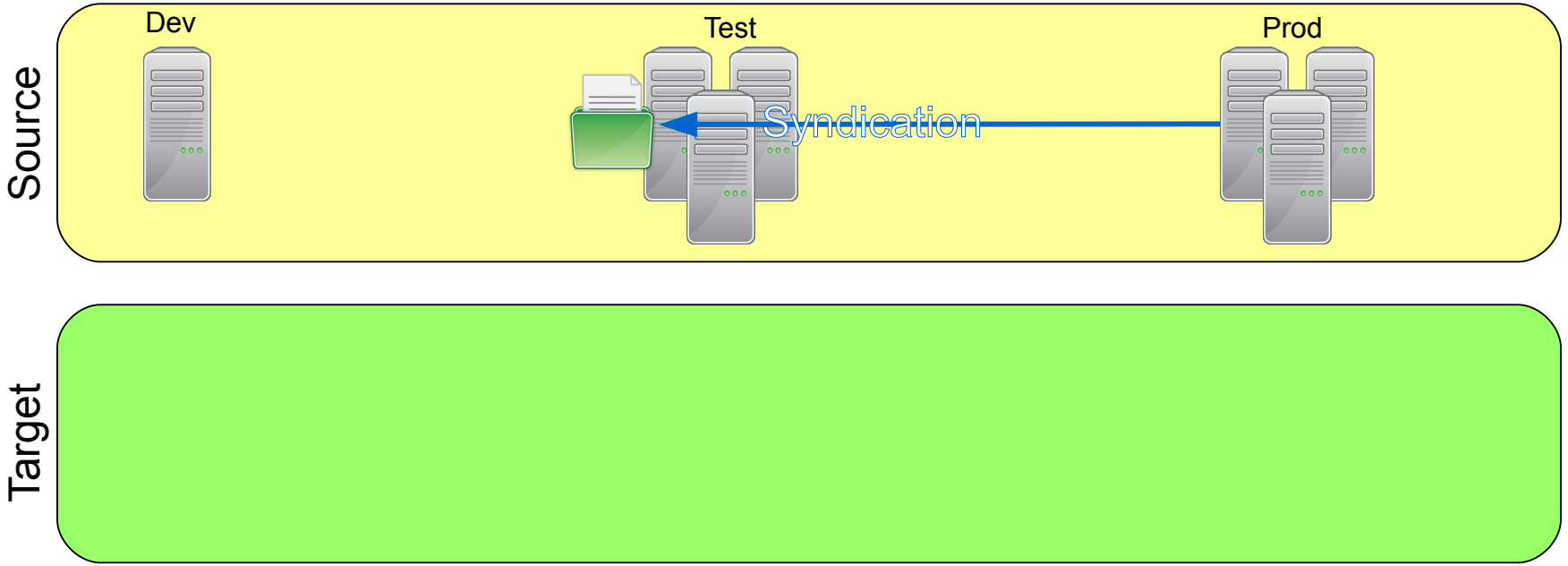

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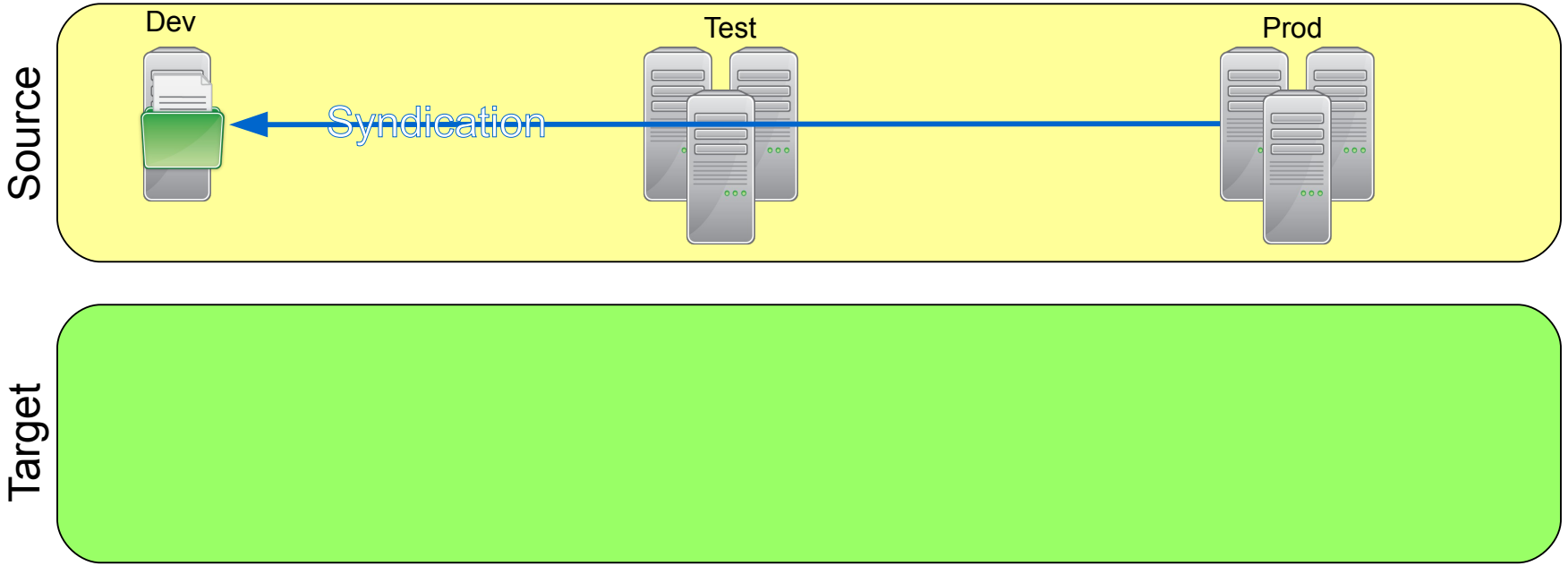

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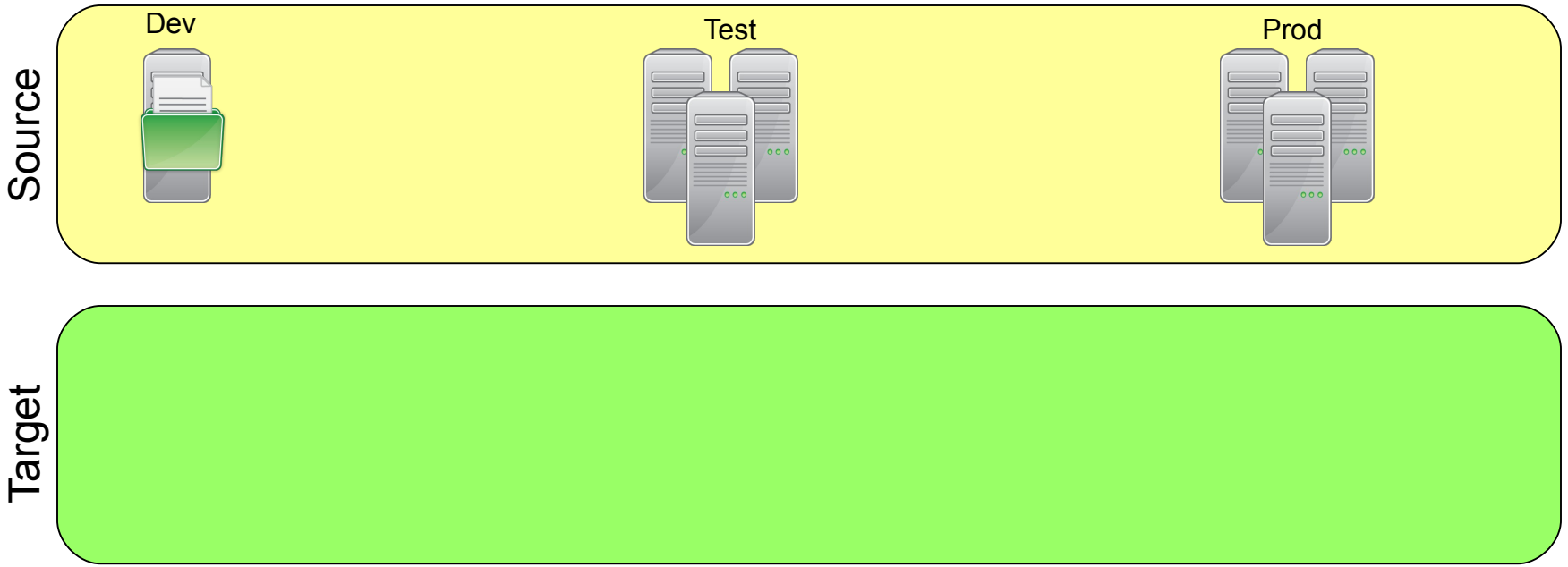

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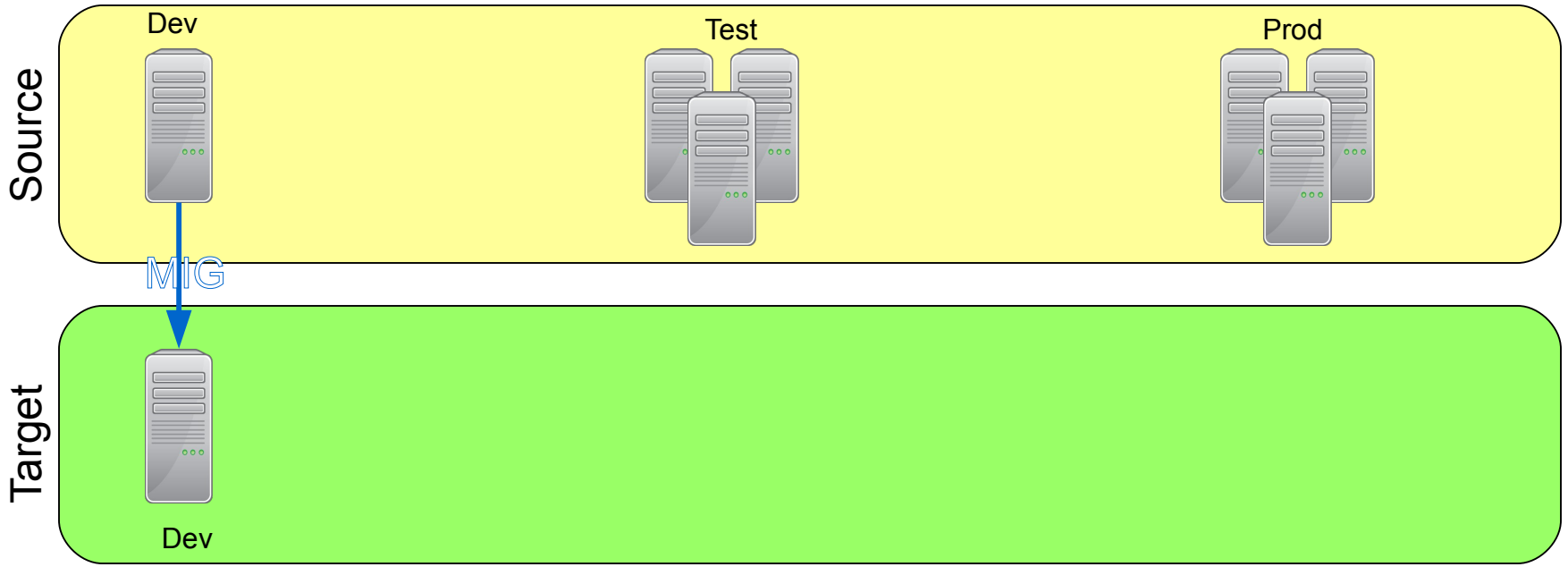

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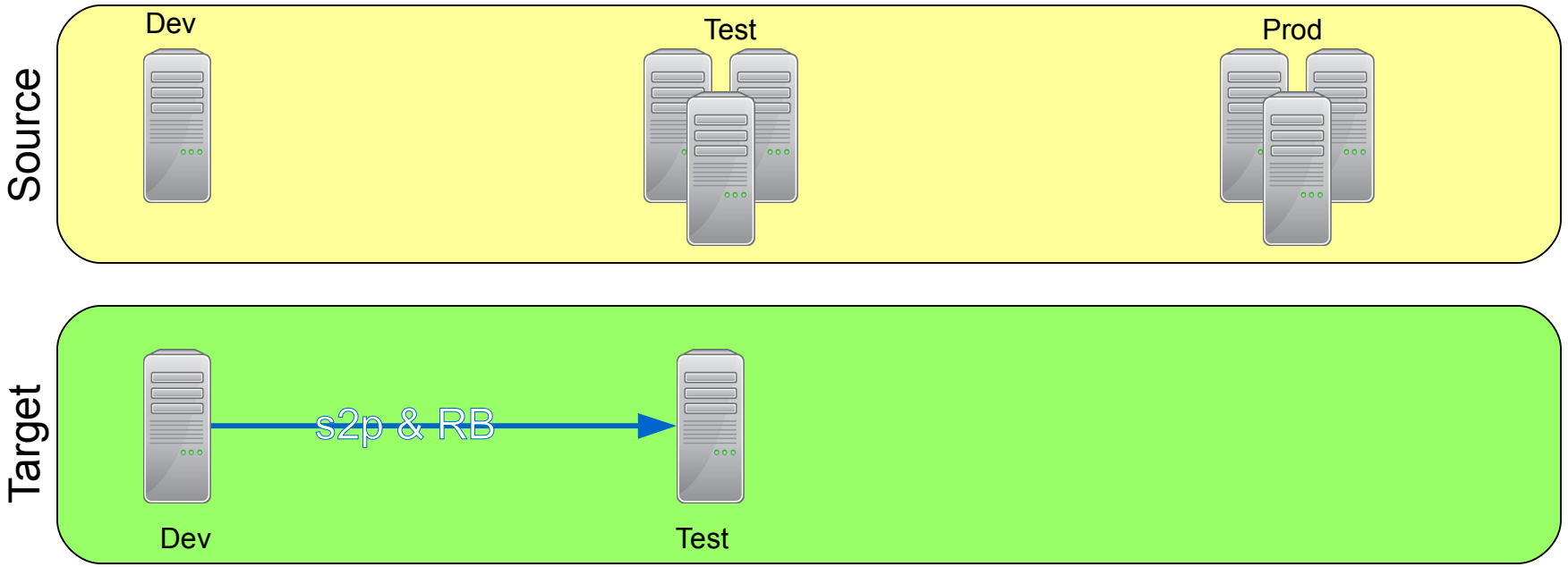

Mixed Tiered Environment

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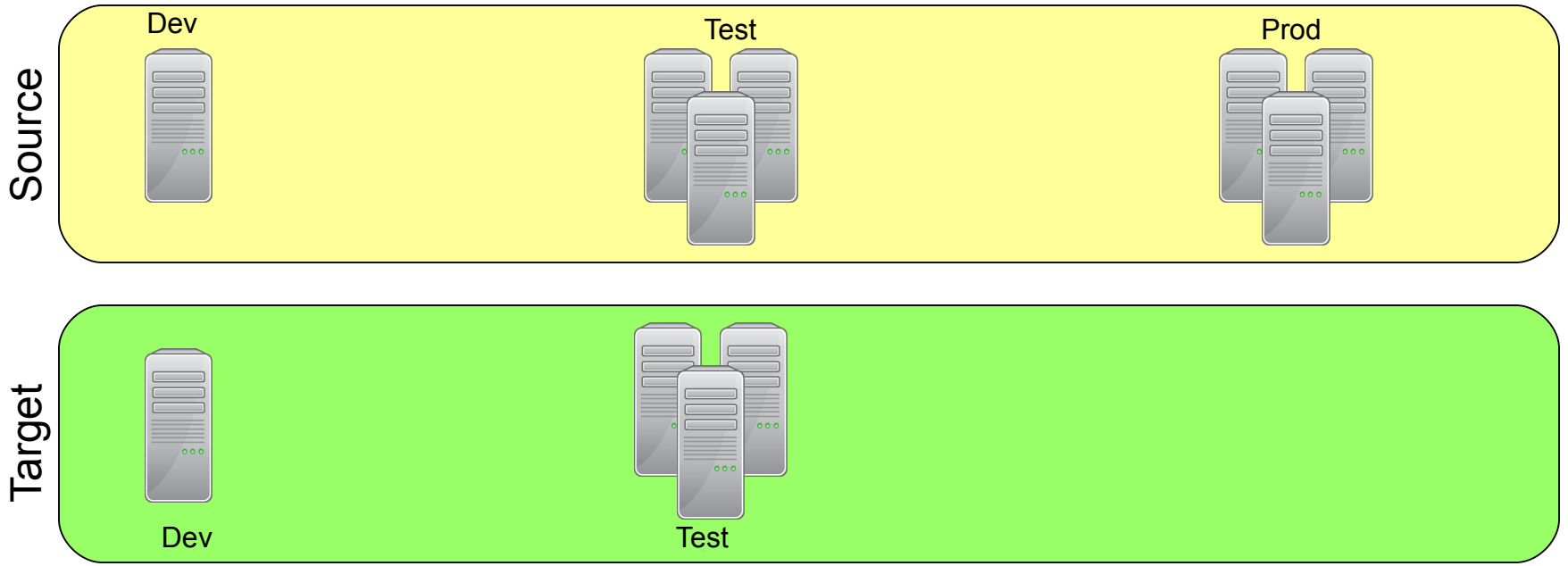

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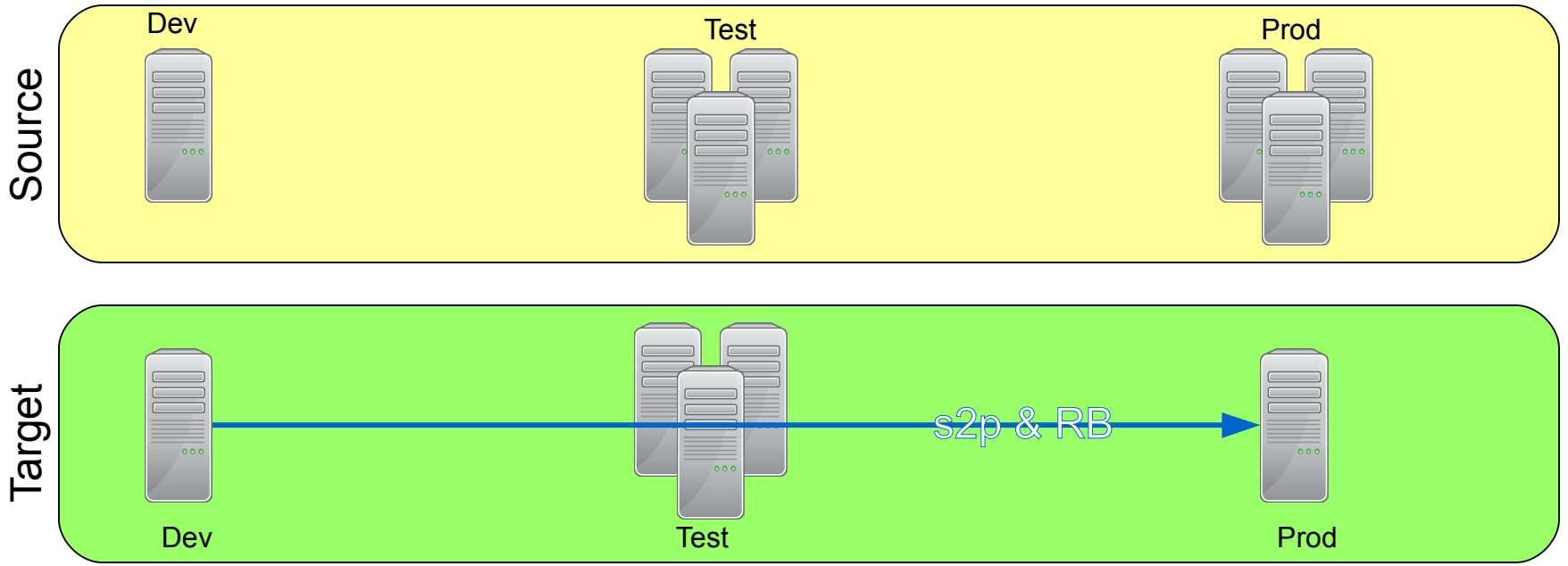

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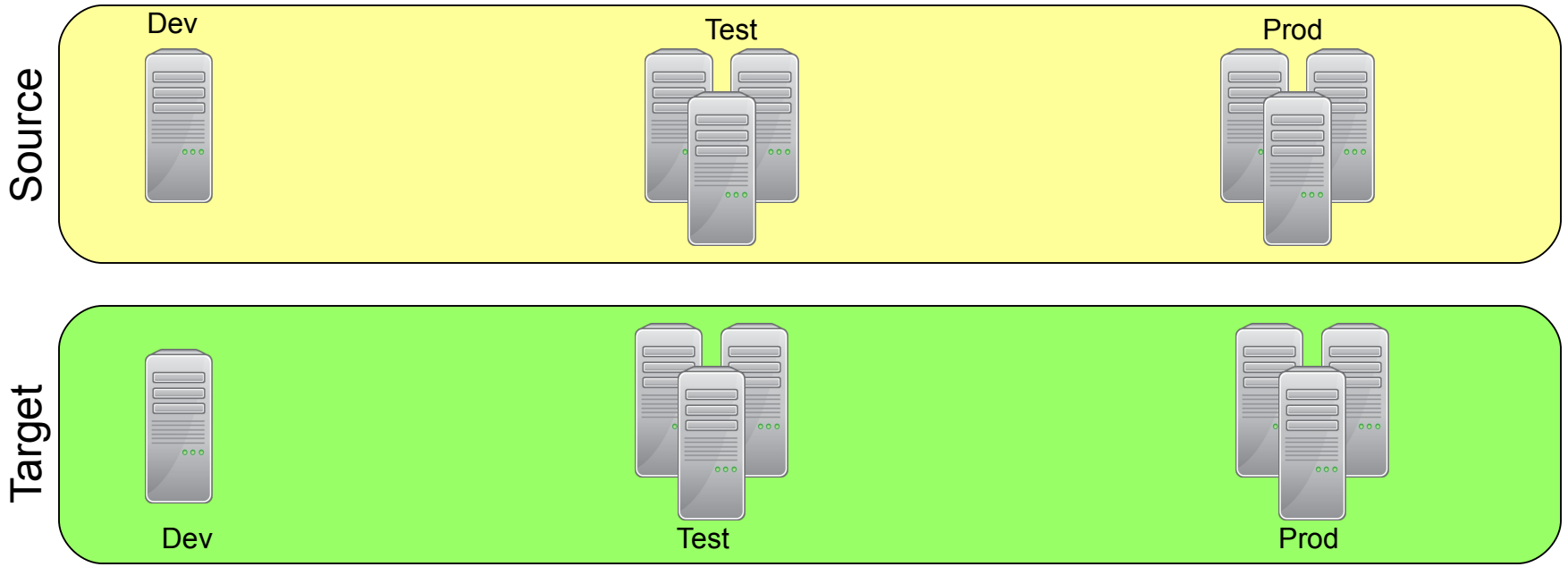
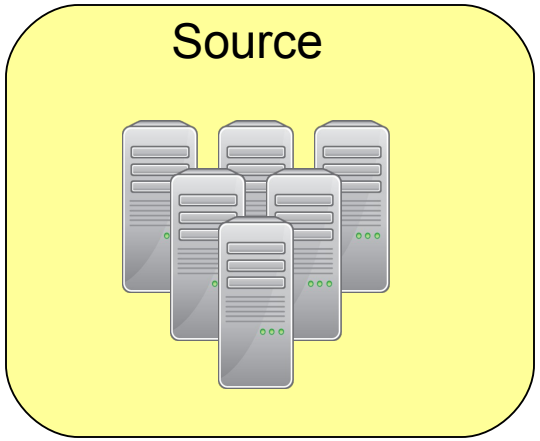
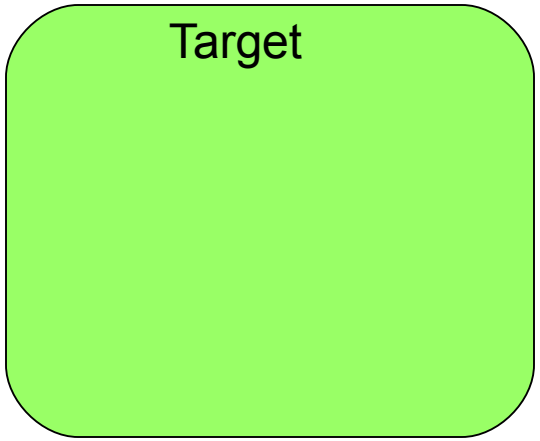


Large Cluster

- Create staging server using s2p and RB
- Migrate staging server
- Build out the rest of the cluster





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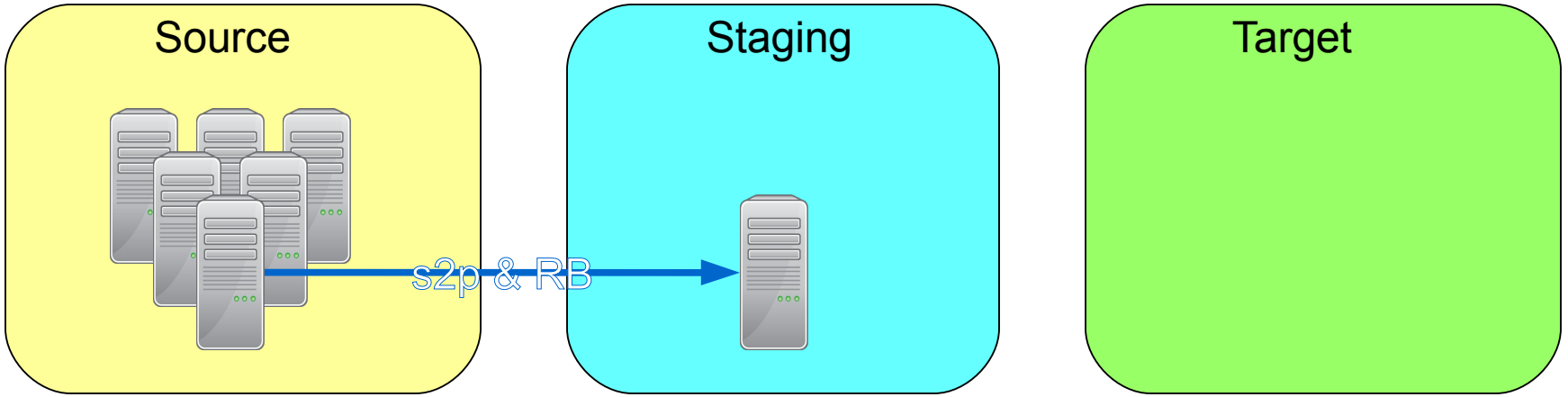

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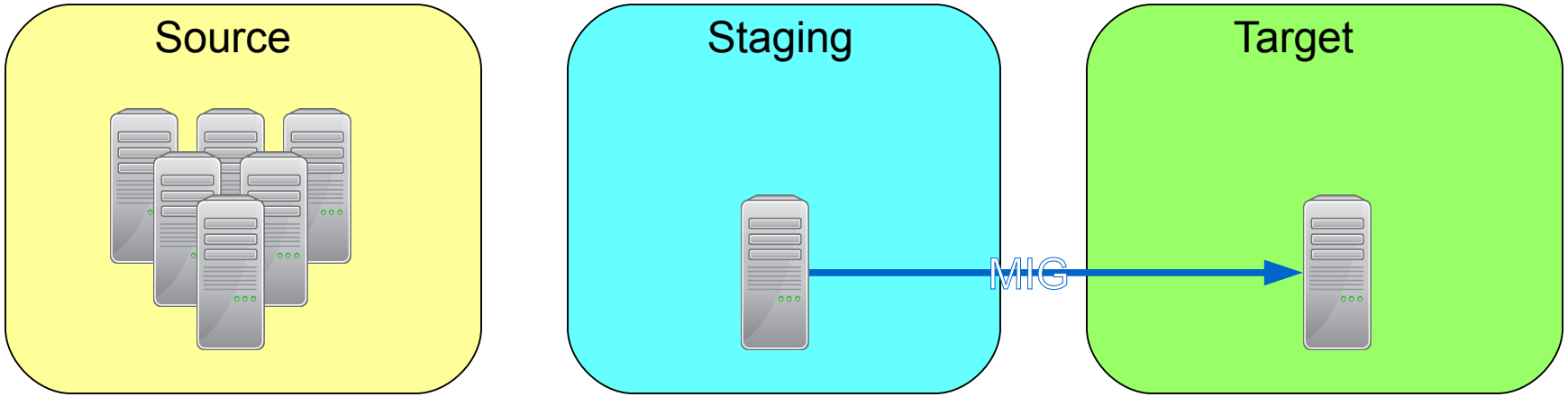

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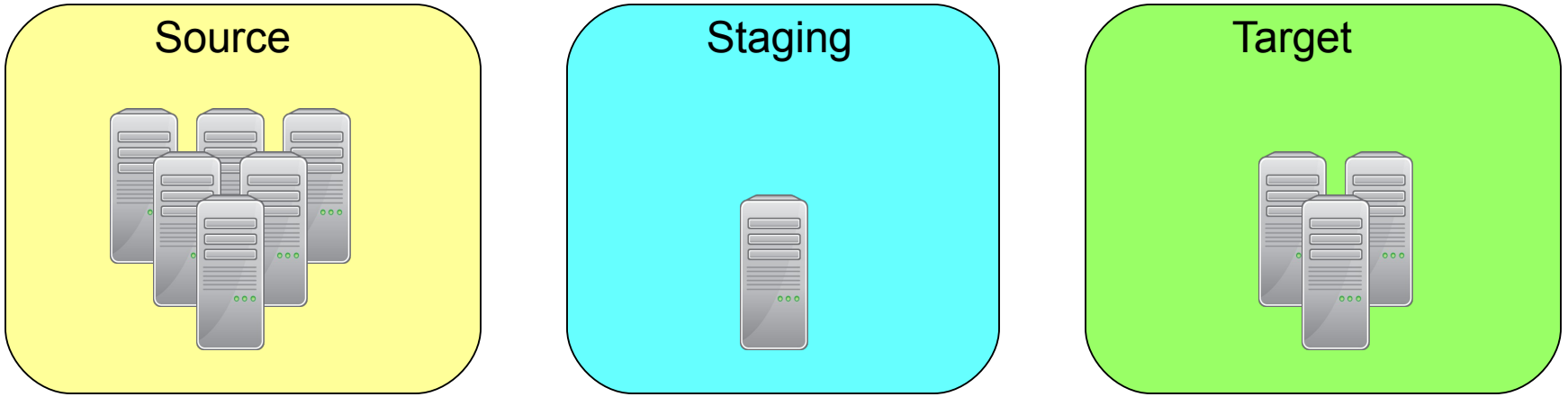

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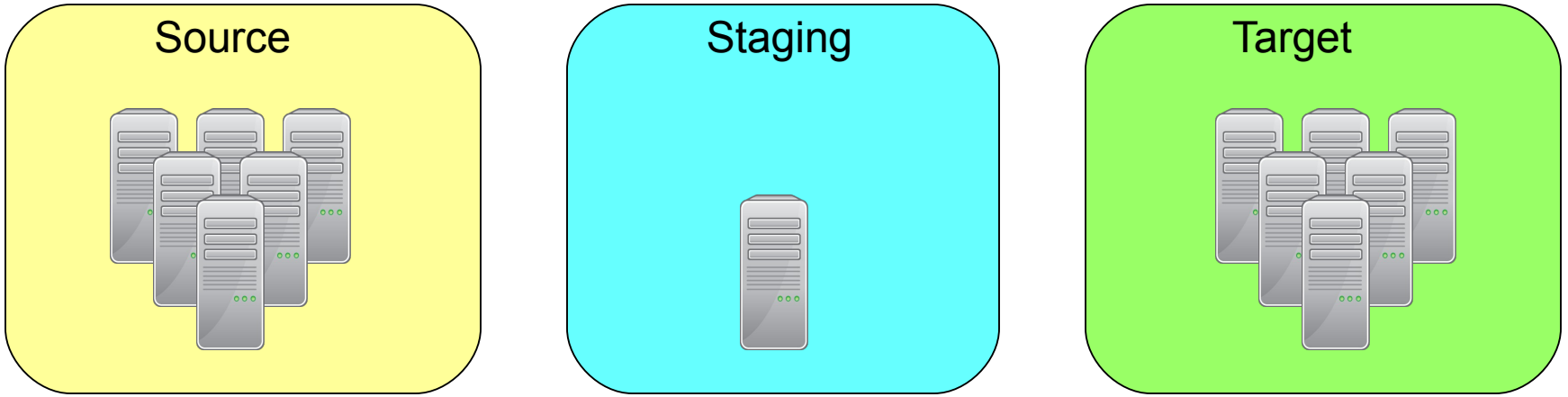
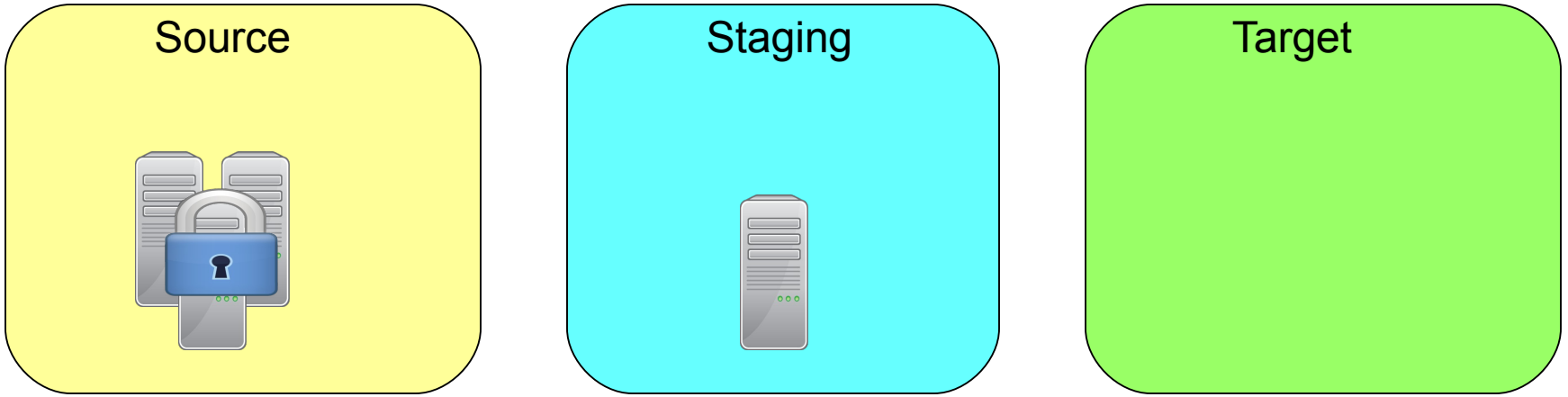


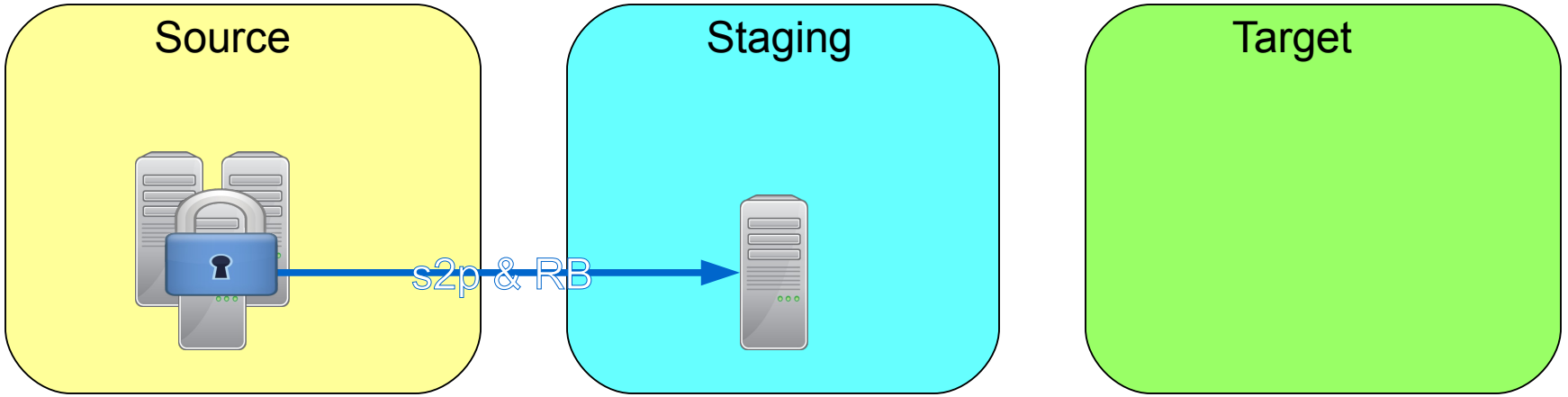
Locked-down Environment

- Create staging server using s2p and RB
- Migrate staging server
- Build out the rest of the cluster



Locked-down Environment

- Create staging server using s2p and RB
- Migrate staging server
- Build out the rest of the cluster



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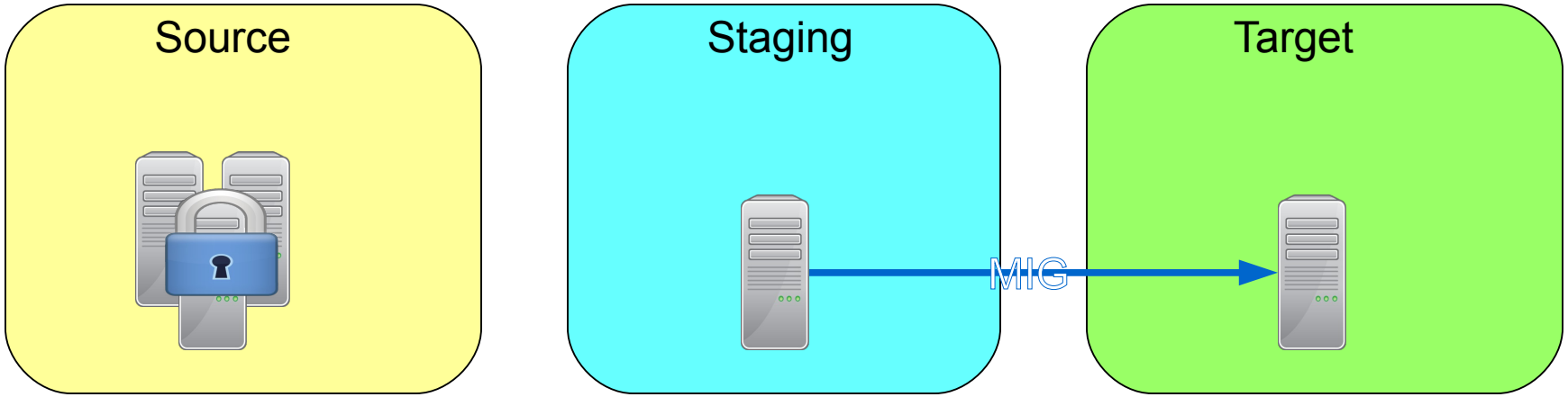

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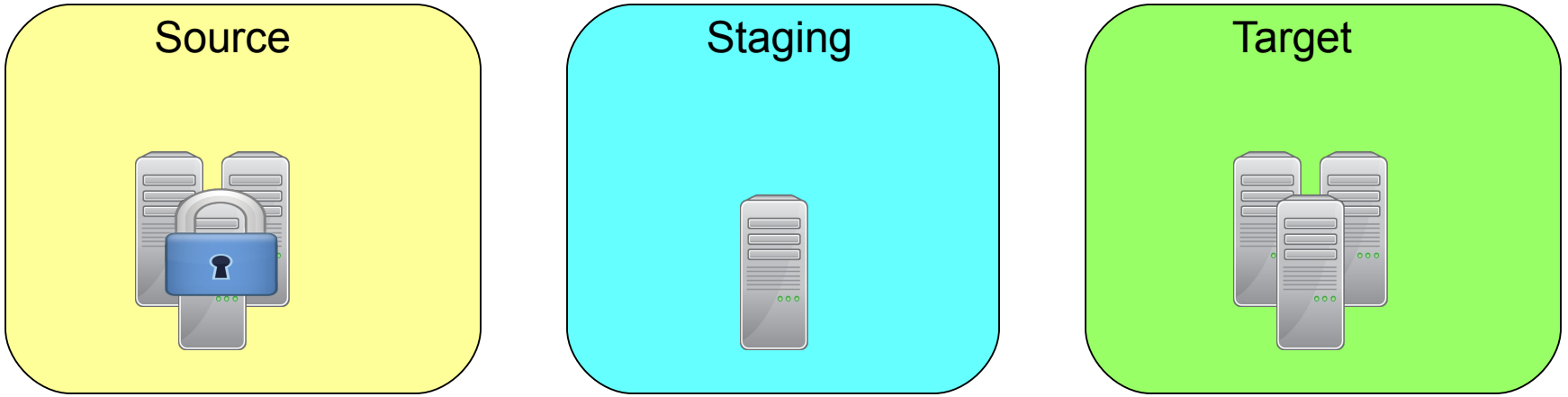
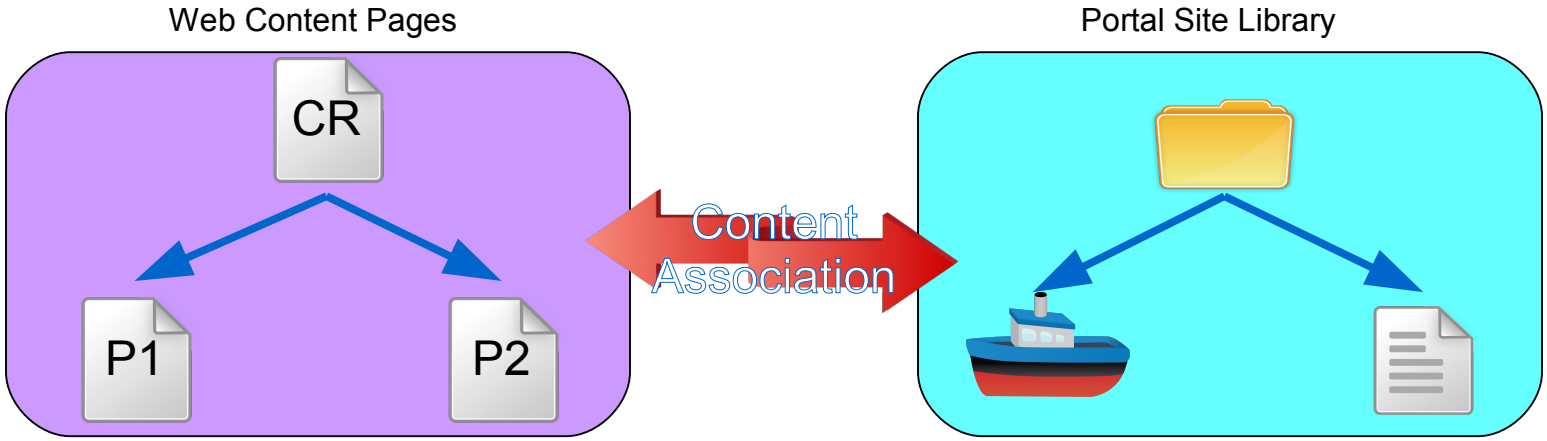


Best Practices

- Keep migration plan simple and do not introduce unnecessary changes
- Use Staging to Production and ReleaseBuilder along with migration to build out the target environments
  - Make sure to consider differences in the environments – such as content, customization, test applications or site libraries – when using this strategy
- Migrate standalone servers and then build out the clusters
- Staging to Production and ReleaseBuilder can be used to create a staging environment for migration
  - This strategy is also used for migrating to IBM PureSystems or a Portal Farm from a cluster
- **Content-only migration is not supported in Portal 8**

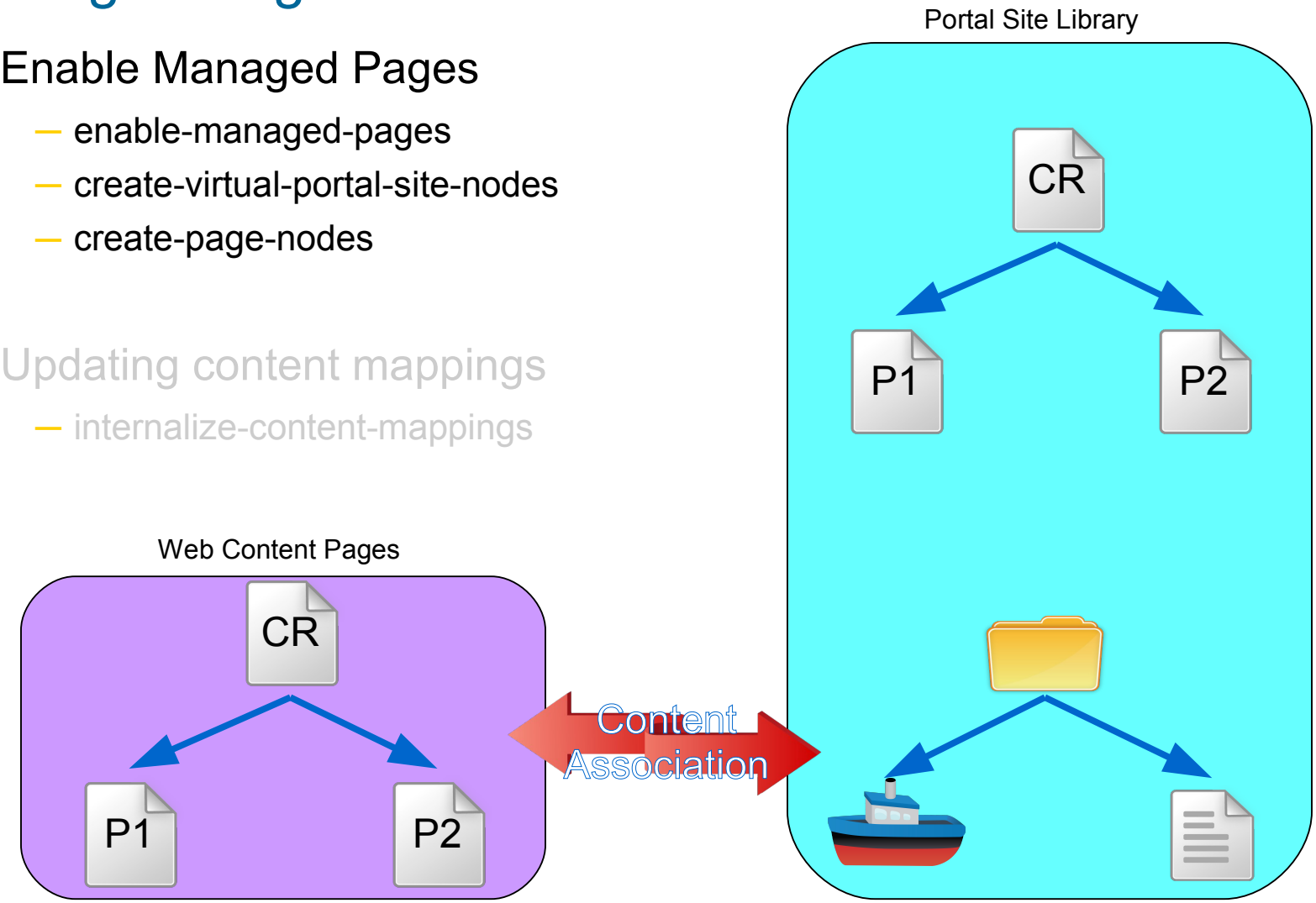
Managed Pages

- Pages and content were maintained separately
  - This could lead to dangling pointers
- Managed Pages treats pages a content items



Managed Pages

- Enable Managed Pages
  - enable-managed-pages
  - create-virtual-portal-site-nodes
  - create-page-nodes
- Updating content mappings
  - internalize-content-mappings



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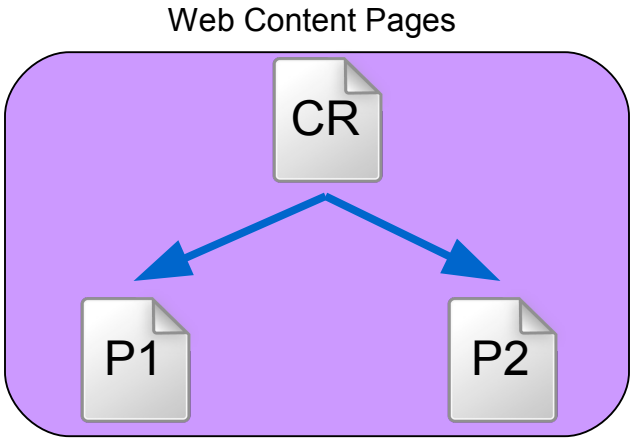
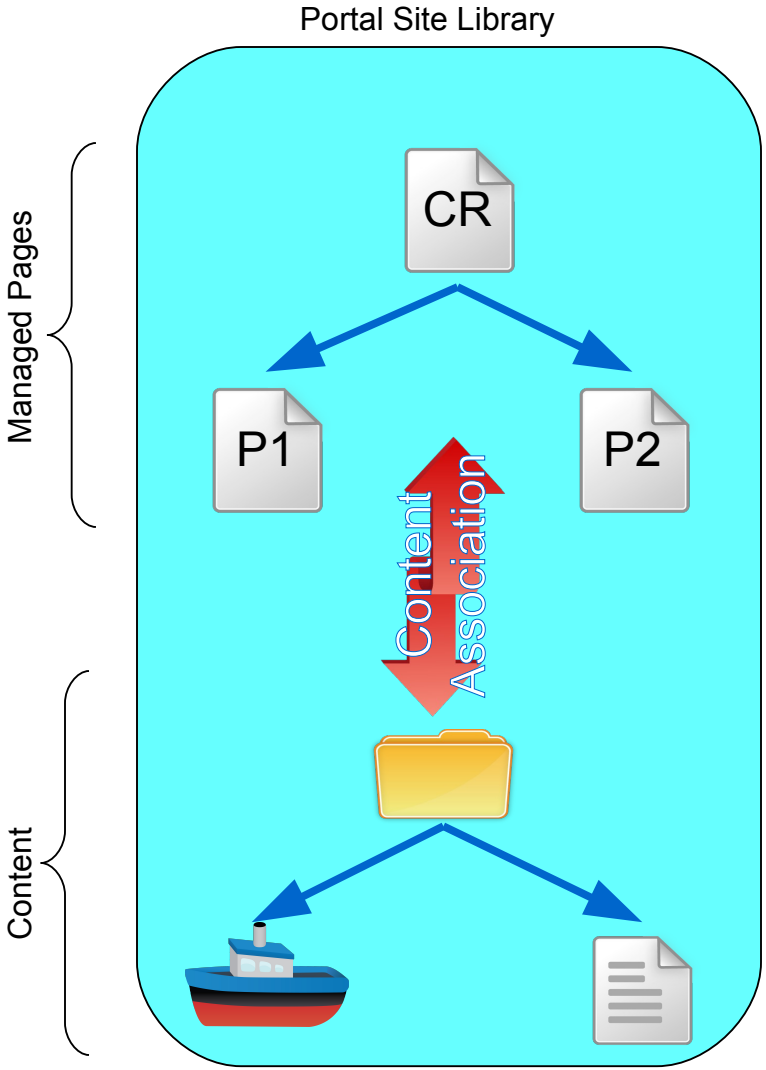
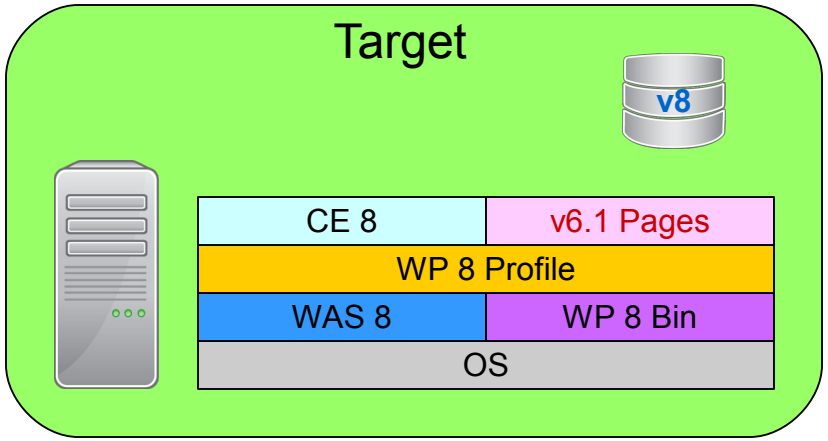




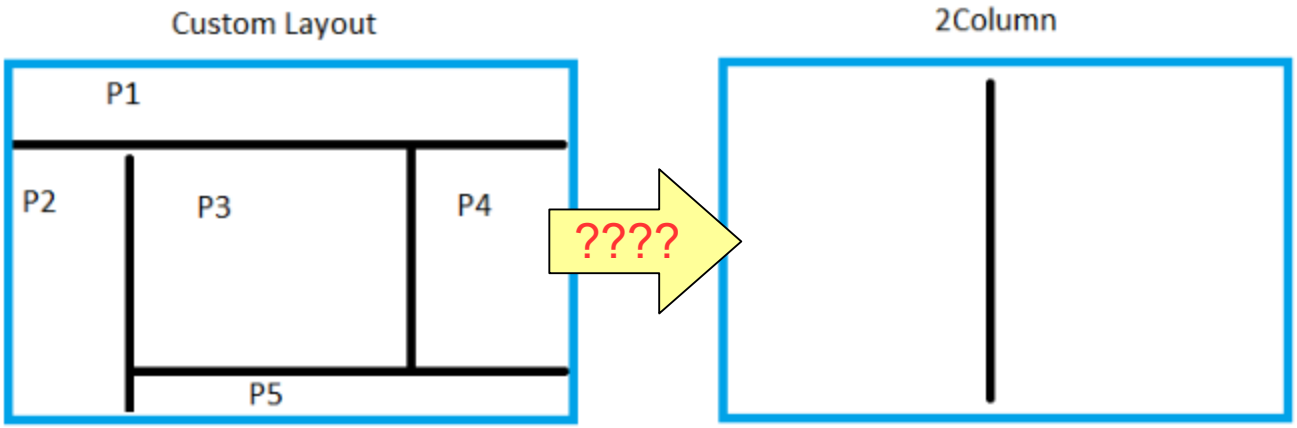
Portal 8 Static Pages

- New page format introduced in Portal 8
- Includes style information in the portlet containers
- Fixed layout which must be defined on the server
- Required to take full advantage of new Portal 8 WCM UI
- Portal 8 themes can only be applied to Portal Static Pages



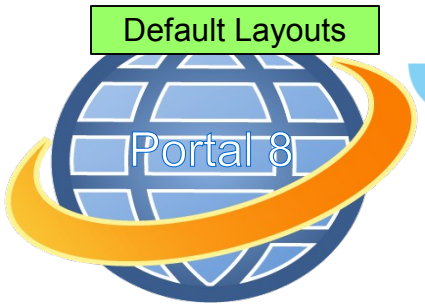
Portal Page Migration

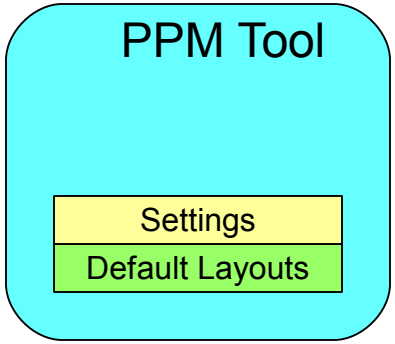
- Updates Page Tree XML exports
- Original pages are not modified
- Default layouts 
- Cannot be fully automated because of Custom Layouts



Portal 8 Static Pages

- Export pages
- Define custom layout definitions for the tool
- Create custom layouts for Portal 8
- Setup the tool
- Run analysis
- Run migration
- Import new pages





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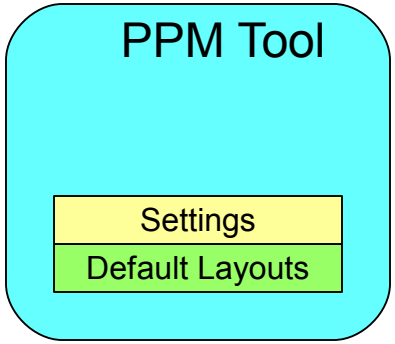

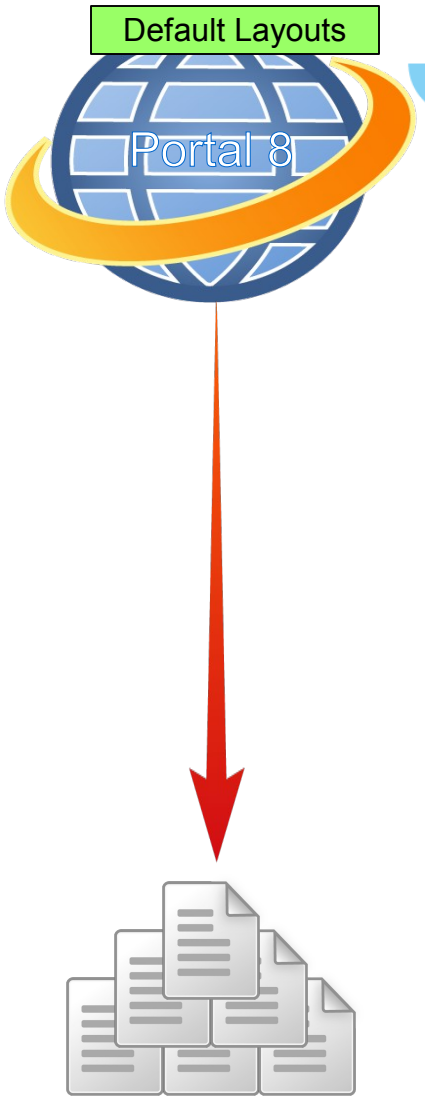

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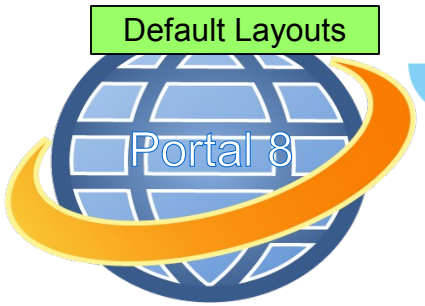

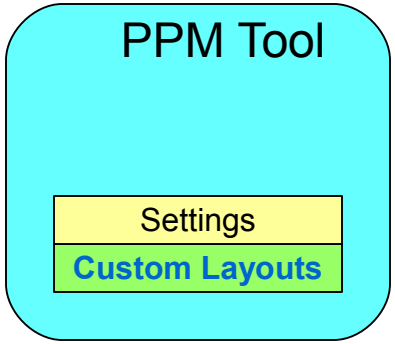

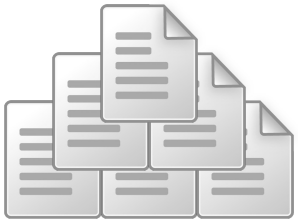

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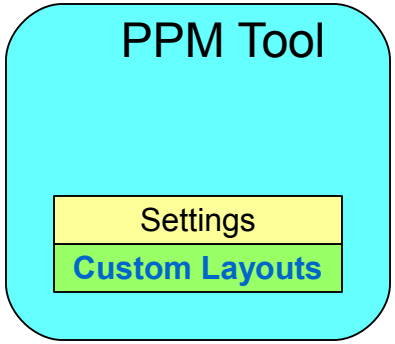

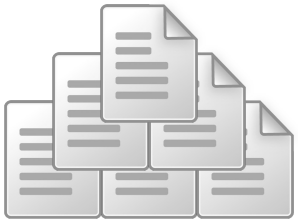

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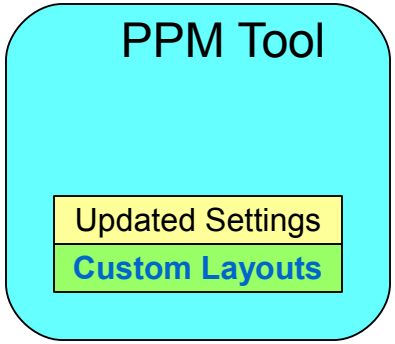
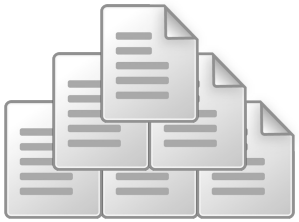
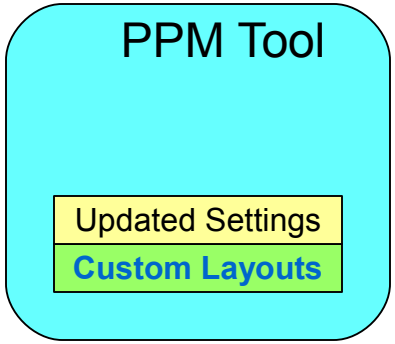




Portal 8 Static Pages

- Export pages
- Define custom layout definitions for the tool
- Create custom layouts for Portal 8
- Setup the tool
- Run analysis
  - Repeat steps if needed
- Run migration
- Import new pages



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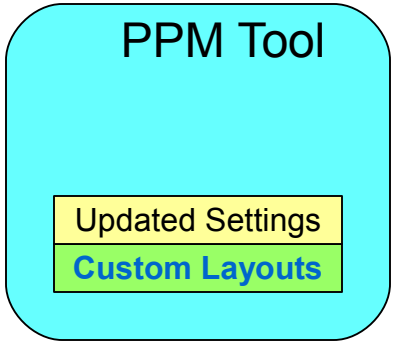

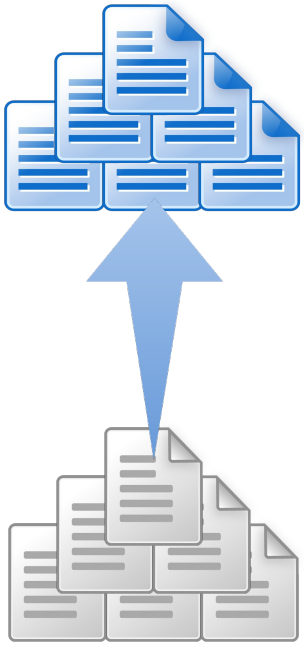

Portal 8 Static Pages

- Export pages
- Define custom layout definitions for the tool
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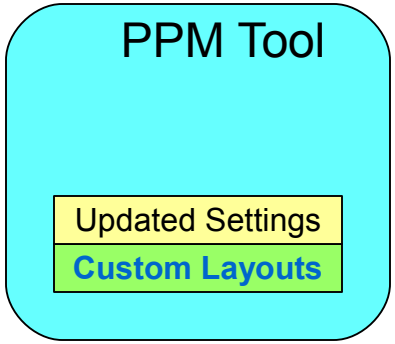
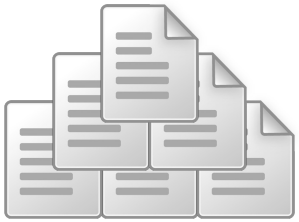
- Setup the tool
- Run analysis
- Run migration
- Import new pages
  - Exported pages not modified





Resources

- Portal 8 Wiki
- http://www-10.lotus.com/ldd/portalwiki.nsf/xpDocViewer.xsp?lookupName=IBM+WebSphere+Portal+8+Product+Documentation#action=openDocument&content=catcontent&ct=prodDoc
- Recommended fixes
- http://www-01.ibm.com/support/docview.wss?uid=swg27007603
- Staging to Production
- http://www-10.lotus.com/ldd/portalwiki.nsf/xpDocViewer.xsp?lookupName=IBM+WebSphere+Portal+8+Product+Documentation#action=openDocument&res_title=Staging_to_production_wp8&content=pdcontent
- Release Builder
- http://www-10.lotus.com/ldd/portalwiki.nsf/xpDocViewer.xsp?lookupName=IBM+WebSphere+Portal+8+Product+Documentation#action=openDocument&res_title=ReleaseBuilder_wp8&content=pdcontent
- Portal Page Migration Tool
- https://greenhouse.lotus.com/plugins/plugincatalog.nsf/assetDetails.xsp?action=editDocument&documentId=5190EB71148A2EC485257B2400510466

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