CA Chorus Software Manager
User Experience at Verizon
Session 15601

August 6, 2014
Agenda

- Verizon Environment
- Verizon software distribution methodology
- CSM Installation History at Verizon
- Where we see value in CSM
- Recommendations
- Surprises Perhaps
- Summary
Verizon Environmentals

- zSeries Environment
  - 5 Data Centers
  - 16 Sysplexes, 7 sandbox or test, 9 production
  - 110+ LPARs
  - 230k Active MIPS
  - 75+ CA products and sub products

- CSM Environment
  - CSM 6.0
  - Installed on systems programmer sandbox only
  - Used for z/OS based products, IDMS and Datacom
  - Only used for product installation and maintenance. Configuration and deployment are accomplished via an internal process
Software Distribution Methodology

- Install once, distribute many
  - All zSeries software is installed in software “warehouse” on our sandbox system by the product developer
  - After installation (RECEIVE – APPLY) software is included in our build process to create an executable version of the software
  - SMP environment copied from the “warehouse” version to an execution environment
  - All executable software resides on the two sysres volumes
- Quarterly software distributions
  - Follows the IBM quarterly RSU calendar
  - Each quarterly RSU is a complete replacement for all prior RSUs
  - Products that have not had any maintenance applied are included in the quarterly distribution as well as products that have had maintenance applied
  - Distributed the month after the IBM quarterly RSU becomes available
  - Takes roughly 8 weeks to roll a distribution through all test and production systems
  - IBM monthly RSU, weekly HIPERs and PEs are downloaded and installed by one person.
  - OEM products are maintained by the developer as maintenance becomes available from the vendor
CA CSM at Verizon

- **June 2010: Install MSM 2.0**
  - Configured for use our sandbox system
  - Limited use, poor performance,

- **February 2011: Installation of CSM 3.1**
  - New product install (separate CSI, separate filesystem)
  - Difficult to migrate the configuration from one release to another
  - Confusing methods to download maintenance
  - Reimport of all managed CSIs

- **May 2012: Upgrade to CSM 4.1**
  - New install, configuration migration no better than the 2.0 – 3.1 migration
  - Better performance for smaller CSIs, performance for large CSI still abysmal
  - Used primarily for maintenance installation in single product CSIs

- **May 2013: Upgrade to CSM 5.1**
  - New install, configuration still overly complicated
  - Required help from CA to migrate configuration from 4.1 to 5.1
  - Performance on large CSI no better, fractionally better for smaller CSIs

- **May 2014: Upgrade to CSM 6.0**
  - Performance markedly improved for large CSI via “zone sets”
  - CA RS Wizard provides good functionality
• Previously used CAMPUS
  – CAMPUS was a CA offering that packaged maintenance for all CA products on a semi annual basis.
  – One developer downloaded and installed the CAMPUS tape maintaining all of the products in a single event.
  – New product releases could be included with CAMPUS; we did maintenance only installs.
  – CAMPUS was discontinued several years ago leaving the burden of regular maintenance to the developer
• CA RS
  – CA’s monthly maintenance package similar to IBM’s monthly RSU
  – Packages CA tested and certified maintenance
• CSM
  – Allows the application of CA RS maintenance via the UPGRADE CA/RS LEVEL function
  – Can span multiple products and multiple zones
• Marriage of CA RS and CSM gets us back to one developer maintaining multiple products in a single event
# Upgrade CARS Maintenance Level

## CA Chorus Software Manager

### SMP/E Environments

**SMP/E Environments**

- **CA Datacom Server - MVS R14**
- **CA Products**
- **Zone Sets**
  - **All CA Products**
  - **CA 1**
  - **CA 11**
  - **CA 7**
  - **CA Deliver**

### Actions

- **Migrate SMP/E Environment**

## SMP/E Environments

### All CA Products

#### SMP/E Environment

- **CA Products**
- **Zone Sets**
  - **All CA Products**
  - **CA 1**
  - **CA 11**
  - **CA 7**
  - **CA Deliver**

### Actions

- **Delete Zone Set**
- **Edit Zone Set**
- **Upgrade CA RS Level**
- **Update Using Fix Categories**
- **Create Deployment**

## Target Zones

<table>
<thead>
<tr>
<th>Name</th>
<th>Data Set</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLDRTGT</td>
<td>OEM.VISNBLDR.R150.CSI</td>
<td><img src="checkmark.png" alt="Valid" /></td>
</tr>
<tr>
<td>CA16TGT</td>
<td>OEM.CA1.R126.CSI</td>
<td><img src="checkmark.png" alt="Valid" /></td>
</tr>
<tr>
<td>CA7CTGT</td>
<td>OEM.CA7.R113.CSI</td>
<td><img src="checkmark.png" alt="Valid" /></td>
</tr>
<tr>
<td>CL2BTGT</td>
<td>OEM.CA11.R11.CSI</td>
<td><img src="checkmark.png" alt="Valid" /></td>
</tr>
<tr>
<td>CPYCTGT</td>
<td>OEM.COPYCAT.R120.GLOBAL.CSI</td>
<td><img src="checkmark.png" alt="Valid" /></td>
</tr>
<tr>
<td>DL12TGT</td>
<td>OEM.GLOBAL.CAMPUS.CSI</td>
<td><img src="checkmark.png" alt="Valid" /></td>
</tr>
<tr>
<td>ESPTGT</td>
<td>OEM.ESPA3.GLOBAL.CSI</td>
<td><img src="checkmark.png" alt="Valid" /></td>
</tr>
<tr>
<td>FZTRTGT</td>
<td>OEM.FZTRPLUS.V115.GLOBAL.CSI</td>
<td><img src="checkmark.png" alt="Valid" /></td>
</tr>
</tbody>
</table>

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Upgrade CARS Maintenance Level (cont’d)

CA Recommended Service Installation

This wizard guides you through CARS installation. By default, the wizard runs in online mode and GROUP mode. CA CSM checks CA Support Online for the latest updates and maintenance, downloads them, and applies the selected maintenance and all its requisites. To change the default behavior, review and adjust the options on this step.

The SMP/E environment global zone may get updated with new HOLDDATA and maintenance packages during your progress through the wizard. Exiting the wizard before running Check Only or Check and Apply does not cancel these updates.

Your current CA RS level CARL406 is 6 days old.
Your current HOLDDATA file is 0 days old.

Optional Installation Modes
Selecting these overrides the default behavior.

- **GROUPEXTEND**: CA CSM automatically applies all selected maintenance and all their requisites, and verifies whether a supersedes maintenance package is available for any unsatisfied (not received, or held in error) requisite. This mode may pull in additional maintenance packages that are not part of the published CA RS level.

- **Offline**: CA CSM does not connect to CA Support Online and only uses the CA RS levels and maintenance that are currently available in the software catalog. No additional updates or maintenance are downloaded.
Upgrade CARS Maintenance Level (cont’d)

Select the CA RS level that you want to upgrade up to. All of the previous CA RS levels are also automatically included in this installation.
Upgrade CARS Maintenance Level (cont’d)

### CA Recommended Service Installation

#### Select Zones

Select the zones where you want to apply the maintenance. You must select at least one zone. Use the filter field to find zones that you want to select.

<table>
<thead>
<tr>
<th>Filter:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Target Zone</th>
<th>Related Distribution Zone</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLDRDGT</td>
<td>BLDRDLB</td>
</tr>
<tr>
<td>CA16DGT</td>
<td>CA16DLB</td>
</tr>
<tr>
<td>CAZ7CFTG</td>
<td>CAZ7DLB</td>
</tr>
<tr>
<td>CA7 Vision 5 Target Zone</td>
<td>CA7 Vision 5 Distribution Zone</td>
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<tr>
<td>CL78DGT CA-11 Release 11 Vision 5 Target Zone</td>
<td>CL78DLB CA-11 Release 11 Vision 5 Distribution Zone</td>
</tr>
<tr>
<td>CPYCDGT</td>
<td>CPYCDLB</td>
</tr>
<tr>
<td>DL12DGT</td>
<td>DL12DLB</td>
</tr>
<tr>
<td>ESPTGT</td>
<td>ESPTDLB</td>
</tr>
<tr>
<td>EZKDTGT</td>
<td>EZKDTLB</td>
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<td>IPC4DGT CA-11 Vision 5 Ideal Used by CA-11</td>
<td>IPC4DLB</td>
</tr>
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<td>JCHKDLB</td>
</tr>
<tr>
<td>MINTGT</td>
<td>MINTDLB</td>
</tr>
<tr>
<td>NDVFGT</td>
<td>NDVFDLB</td>
</tr>
<tr>
<td>NMC1GT</td>
<td>NMC1DLB</td>
</tr>
<tr>
<td>OPSCTGT</td>
<td>OPSCDLB</td>
</tr>
<tr>
<td>PANSTGT</td>
<td>PANSDLB</td>
</tr>
</tbody>
</table>

[Back] [Next] [Check Only] [Check and Apply] [Exit] [Help]
Upgrade CARS Maintenance Level (cont’d)

### CA Recommended Service Installation

**Select Functions**

- Review the product and function selection. Clear check boxes for the products and functions that you want to exclude from processing.

You selected 127 functions.

<table>
<thead>
<tr>
<th>Function Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Products and Functions - All products and functions installed in selected zones</td>
<td></td>
</tr>
<tr>
<td>A03,11.05.00 - CA Easytrieve Compiler</td>
<td></td>
</tr>
<tr>
<td>CIGB500</td>
<td></td>
</tr>
<tr>
<td>AG0,12.06.00 - CA-OSI/Common Component-MVS</td>
<td></td>
</tr>
<tr>
<td>CAG8C60 - CA OSI/Common COMPONENT-MVS</td>
<td></td>
</tr>
<tr>
<td>A04,04.02.00 - CAIIPC/EDK-MVS</td>
<td></td>
</tr>
<tr>
<td>CJ04200 - Unicenter CA-11</td>
<td></td>
</tr>
<tr>
<td>AL0,12.08.00 - CA 1 MVS TAPE MANAGEMENT</td>
<td></td>
</tr>
<tr>
<td>CALB0C60 - CA 1 MVS Tape Management</td>
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</tr>
<tr>
<td>APD,04.02.00 - CAIIPC/PDF-MVS</td>
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<tr>
<td>CPD04200 - Unicenter CA-11</td>
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</tr>
<tr>
<td>ASI,04.02.00 - CAIIPC/SCF-MVS</td>
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</tr>
<tr>
<td>CSI04200 - Unicenter CA-11</td>
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<tr>
<td>ASR,07.01.00 - CA-SRAM-MVS</td>
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</tr>
<tr>
<td>CASR710 - UNICENTER CA-SRAM SORT REENTRANT ACCESS METHOD</td>
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<tr>
<td>AT1,04.02.00 - CAIIPC/PSS-MVS</td>
<td></td>
</tr>
<tr>
<td>CTA04200 - Unicenter CA-11</td>
<td></td>
</tr>
<tr>
<td>AT4,04.02.00 - CAIIPC/PMS-MVS</td>
<td></td>
</tr>
</tbody>
</table>
Upgrade CARS Maintenance Level (cont’d)
Upgrade CARS Maintenance Level (cont’d)

Your selection in the previous step resulted in exclusion of all maintenance from installation into these zones: TLM5TGT, E2TR1GT, MINTGT, TP54TGT, IPC4TGT, CPYCTGT, RAMTGT, TAPETGT, CA16TGT, QPETTGT, F004TGT, SPL7TGT, BLDRTGT, NDVFTGT, OPSCTGT, TPLNTGT. If you continue, CA CSM will not install any new maintenance into these zones.
Upgrade CARS Maintenance Level (cont’d)

Review the summary. Click Check Only to verify that the maintenance can be applied to the selected target zones. Click Check and Apply to verify and apply the maintenance to the selected target zones.

The maintenance will be applied to the SMP/E environment:

- **CA Products**
  - OEM.GLOBAL.CAMPUS.CSI

Selected Mode:

- **GROUPEXTEND**

Selected CARS Level:

- **CA1406**
  - Maintenance That Will Be Applied (79 in total)
  - Maintenance That Will Not Be Applied (4 in total)
  - Selected Target Zones
  - Selected Functions
  - Bypassed HOLDDATA by Target Zone
Recommendations
Migrate to CSM 6.0

• Install 6.0, then migrate all CSIs into CSM
  – We ran 6.0 and 5.1 in parallel for several months. There are no issues updating the same CSI from both releases of CSM
  – The upgrade process seemed messy and so we just remigrated all our CSIs
  – Allows for a much needed cleanup of the prior release filesystems
  – You do lose access to task output from work done with prior releases unless you upgrade
• Improved performance
  – Overall better performance than 5.1 even for large CSIs
  – Performance further improved for large CSIs (over 100 zones) using Zone Sets
• Installed products listed by name rather than arcane 3 letter codes
• Improved CARS and maintenance wizards
• Automatic maintenance download and receive function
Specify Adequate Download Size

![Image of CA Chorus Software Manager](image)

**Mount Point Management**

**Information**

- On this page, you can configure the following:
  - General and allocation parameters to mount file systems as a file system becomes full, a new file system is
    required.
  - The way how CA CSM handles managed product USS file systems at startup

- If you change a parameter on this page, click **Apply** to apply and save the changes. The changes take effect

**Mount**

- Hierarchical File System (HFS):
  - z/OS Distributed File Service zSeries File System (zFS):

**Data Set Size**: 5000

**Automount**: Check box

**Data Set Prefix**: SYSSUP.MSNSERVE.R60

**Application Root**: /local/msnserv/063

**Unmount at Shutdown**: Uncheck box

**Mount - File System Allocation Parameters**

- Use SMS: Check box
  - Use Non-SMS: Uncheck box

- **Storage Class**: SYSTEM
  - **VOLSER**:

- **Management Class**: NOACTION
  - **Unit**: SYBULLDA

**Managed Product USS File Systems**

- **Verify File System Mount Capability at Startup**: Uncheck box
- **Issue an Operator Console Message If Verification Fails**: Uncheck box
- **Attempt to Mount File System If Not Mounted**: Uncheck box
- **Stop Verifying File Systems at Startup after a Period of Time**: Uncheck box
- **Number of Days Since File System Has Been Added to CA CSM**: 30

**Apply**
Use ZONE SETS For Large CSIs

---

**Actions**
- Migrate SMP/E Environment

**SMP/E Environments**

- SMP/E Environments
  - CA Datacom Server - MVS R14
  - CA Products
  - Zone Sets
    - All CA Products
    - CA 1
    - CA 11
    - CA 7
    - CA Deliver
    - CA ESP
    - CA Easystripe
    - CA Easystripe 15.1

---

**SMP/E Environments**

- **Name**
  - CA Datacom Server - MVS R14
  - CA Products
  - CICS Services Rel.14.0
  - CSM 6.0
  - Datacom DB Rel. 14.0
  - DATACOM REL.12.0
  - IDEAL Rel.14.0
  - IPC / VPE Rel.14.0
  - JCLCHECK R12

- **Data Set**
  - NSSNADR.DB5RV14.SMPE.SMPCSI.CSI
  - DEM.GLOBAL.CAMPUS.CSI
  - NSSNADR.JC14.SMPE.SMPCSI.CSI
  - NSSNADR.DB12.SMPE.SMPCSI.CSI
  - NSSNADR.JD14.SMPE.SMPCSI.CSI
  - NSSNADR.JC14.SMPE.SMPCSI.CSI
  - DEM.JCHKR12.CSI

- **Tags**
  - No tags

- **Actions**
  - Open

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Creating ZONE SETs

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Number of Zones</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>All CA Products</td>
<td>Warehouse target zones for all products except Panvalet</td>
<td>26</td>
<td></td>
</tr>
<tr>
<td>CA 1</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>CA 11</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>CA 7</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>CA Deliver</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>CA ESP</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>CA Easytrieve</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>CA Endevor 15.1</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>CA NIM</td>
<td></td>
<td>1</td>
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</tr>
<tr>
<td>CA Netmaster</td>
<td>Netmaster</td>
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<tr>
<td>CA OPS/MVS</td>
<td></td>
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<td>CA Panvalet</td>
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<td>1</td>
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<td>CA Spool</td>
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<td>1</td>
<td></td>
</tr>
<tr>
<td>CA Virtual</td>
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<td>1</td>
<td></td>
</tr>
</tbody>
</table>
Improved Product Identification

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Automatically download and receive maintenance on a weekly basis
Additional Maintenance for 6.0

- RO71316 – Allows export and save of HOLDDATA to a local file
- RO71047 – Corrects sort arrows under IE in the CARS maintenance application summary report
- RO69321 – Do not download or receive maintenance when doing an APPLY of maintenance already received
Don’t be surprised by....
### zFS Space Consumption

<table>
<thead>
<tr>
<th>Command - Enter &quot;/&quot; to select action</th>
<th>Tracks</th>
<th>%Used</th>
<th>XT</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYSSUP.MSMSERVE.R60.CASC95.DATA</td>
<td>14280</td>
<td>?</td>
<td>2</td>
</tr>
<tr>
<td>SYSSUP.MSMSERVE.R60.CASC48.DATA</td>
<td>9270</td>
<td>?</td>
<td>11</td>
</tr>
<tr>
<td>SYSSUP.MSMSERVE.R60.CASC26.DATA</td>
<td>6855</td>
<td>?</td>
<td>21</td>
</tr>
<tr>
<td>SYSSUP.MSMSERVE.R60.CASC39.DATA</td>
<td>6690</td>
<td>?</td>
<td>3</td>
</tr>
<tr>
<td>SYSSUP.MSMSERVE.R60.CASC22.DATA</td>
<td>6375</td>
<td>?</td>
<td>37</td>
</tr>
<tr>
<td>SYSSUP.MSMSERVE.R60.CASC44.DATA</td>
<td>5295</td>
<td>?</td>
<td>2</td>
</tr>
<tr>
<td>SYSSUP.MSMSERVE.R60.CASC94.DATA</td>
<td>4830</td>
<td>?</td>
<td>38</td>
</tr>
<tr>
<td>SYSSUP.MSMSERVE.R60.CASC63.DATA</td>
<td>2940</td>
<td>?</td>
<td>4</td>
</tr>
<tr>
<td>SYSSUP.MSMSERVE.R60.CASC68.DATA</td>
<td>2520</td>
<td>?</td>
<td>18</td>
</tr>
</tbody>
</table>
Announcing the General Availability of CHORUS SOFTWARE MANAGER (CSM) R6.0.

Latest CA RS Maintenance Level: CARS1405

New Maintenance

- 44 new HIPERs are available for 2 products.
- 696 new maintenance packages are available for 3 products.
- No new products, no new releases, and no new gen levels are available.
- No new CA RS levels are available.

SMP/E Environments

- No SMP/E environments are missing HIPERs.
- No SMP/E environments are missing maintenance.

Tasks

- You have 366 active tasks.
- You have no tasks awaiting your input.
- You have 55 tasks in error.
Unusual Errors

A product or release for PMID CPD4200 CSI4200 CMN4D90 was not found in the software catalog. The maintenance cannot be applied to the product.

Do the following:

1) Exit the wizard, and verify that the product has not been hidden from the product tree on the left.
   If the product has been hidden, click Show Hidden Products under Actions on the left, select the product, and click Show Hidden Products.
2) Locate the product in the product tree, and perform the Update Product Release action for the release to retrieve available packages for the product release.
3) If you cannot locate the product, click Update Complete Product List under Actions on the left of the product tree with all currently licensed products.

Then, restart the wizard.

The following missing PMIDs can be found in the products or releases hidden from the product tree:

CPD4200
CSI4200
CMN4D90

For each PMID, show at least one product in the product tree.

For the following PMIDs, there are no hidden products in the software catalog: (CMN4D90, CPD4200, CSI4200).

Click Update Complete Product List to update the product tree with the currently licensed products.

Summary

• CSM takes some of the tedium out of installing and maintaining products
  – You still have to have a good understanding of SMP and shop standards

• Positive improvement over time
  – Early releases had limited functionality and performance issues
  – CA is interested in knowing about issues and resolving them
  – Help is easy to find

• Initially was resisted by our “grey beard” staff
  – Felt it was faster to just run a batch job to do SMP work
  – Challenged by the web interface
  – Multiple ways to accomplish the same task can be confusing

• Still some room for improvement
  – CSM wants a pristine SMP environment which rarely exists
  – Wizards are forgetful
  – Space management

• Positions for the “new wave” of sysprogs
Questions

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