



Consolidated Technology Services • WA

# State Data Center

# CTS Move Phase 1 - Servers Migration Guide

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Prepared by:  
Steve Lovaas, Enterprise Projects Client Liaison

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## Document Revision History

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Description of Change	Page or Section	Date Revised	Reviser
Published first draft	All	4/24/13	Steve Lovaas

## Introduction and Purpose

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The purpose of this Migration Guide is to define the steps that Consolidated Technology Services (CTS) and customer staff will take to complete readiness tasks necessary for the migration of systems to the State Data Center (SDC). It also contains the migration and post migration tasks needed to fully complete the migration effort.

This Guide documents the key activities to be coordinated by the customer's Agency Implementation Coordinator (AIC) in preparation for each system migration. These activities are summarized in a checklist that will be used to track completed activities and when complete signifies that the system is ready for migration scheduling. Completion of these activities is critical to migration success and will help to minimize any unplanned service disruption. The AIC serves as the primary customer contact and is responsible for coordinating the internal customer activities stated in the Guide.

When all tasks are complete the AIC will submit customer acceptance for cutover to the CTS Enterprise Projects Client Liaison asserting the customer's readiness to proceed with the migration. This may be provided in the form of a signed checklist or email confirmation. Upon receipt CTS' assigned Project Manager will review and either a) confirm readiness or b) return the checklist for further work. After readiness is confirmed by CTS, migration work and related activities will begin.

All system migrations are coordinated through an overall project schedule. A [Migration Calendar](#) has been published reflecting SDC migration activity.

## Document Structure

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As agencies progress through the Guide, they will see prerequisite tasks that:

- Must be completed internally by the customer agency
- Must be completed by CTS staff
- Must be completed in coordination with CTS

Each task is prefaced with a table entry that contains a column each for identifying the primary party responsible for completing the work activity, a task number and a relative description. The table below provides a brief sample:

Party	Task #	Task Description
Customer	1	<b>Prerequisite task that must be completed by the customer agency</b>
CTS	2	<b>Prerequisite task that must be completed by CTS</b>

Each table entry will be followed by a more detailed description of the work to be accomplished for that task. Migration tasks have been organized in a general chronological order.

Please Note: All migration tasks have been built to include a wide range of scenarios and not all tasks apply to every migration – these tasks will be clarified for each server with the appropriate party during the planning phase.

Agency Implementation Coordinators will interface with the CTS Enterprise Projects Client Liaison to review any questions regarding this Guide.

## Document Scope

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The SDC migration projects that will impact customers have been organized into service areas to help CTS manage and communicate regarding the migrations. Two SDC migration projects are currently underway:

- **CTS Move Phase 1** - This project will focus on moving selected CTS equipment that best alleviates the heat issue in OB2. This phase will move the following primary areas:
  - Servers
  - Messaging
  - Security
  - Telecommunications
  - Network
  - Mainframes
- **Firewall** - This project will replace aged and over-capacity firewalls. It will also deliver enhanced data security services such as enterprise logging and event correlation, and intrusion detection/intrusion prevention.

This Guide addresses **CTS Move Phase 1 – Servers** and includes the following:

- Section 1: Virtual Servers
- Section 2: Physical Servers

The servers being moved in the CTS Move Phase 1 Project are managed by CTS Server Administrators. A majority of the tasks performed for these migrations will be performed by CTS in collaboration with the customer. Customer tasks will primarily include:

- Approving the schedule for the migration
- Participating in the planning effort
- Freezing application and system changes prior to the move
- Verifying the system is performing as expected after the migration

## Section 1 – Virtual Servers

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The following tasks apply to virtual server migrations:

### Migration Tasks

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<b>30 TO 60 DAYS BEFORE MIGRATION</b>
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CTS Client Liaison	1	<b>Identify move team including customer contact(s)</b>
CTS Client Liaison	2	<b>Schedule move planning session(s)</b>

The CTS Client Liaison must work with the CTS project manager and the AIC to identify the resources required to move and validate the system. This “move team” will perform the move and verification activities.

The CTS Client Liaison will facilitate meetings needed to plan and coordinate the move.

CTS Server Admin	3	<b>Apply software patches to bring the server up-to-date</b>
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Prior to the move, the operating system software needs to be upgraded to the latest versions. This ensures software versions are at vendor supported levels.

CTS Server Admin	4	<b>Verify destination data store has enough free space for VM</b>
CTS Server Admin	5	<b>Verify the data store is present on the target host and can support a test VM</b>
CTS Server Admin	6	<b>Confirm backup configuration and schedule</b>

Before adding the virtual machine/server (VM), the CTS Server Admin needs to verify there is enough storage available to support the VM and allocate more if there is not enough.

The CTS Server Admin must also verify the data-store is on the target host and can support a test VM. Without this, the test will fail.

Before the VM is cut-over, a system backup is needed in case the VM instance needs to be restored.

CTS Server Admin	7	<b>Test vMotion – vMotion a test server in the extended VLAN and verify</b>
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This task tests the VM set-up, configuration, and network (VLAN) to ensure the environment is ready for the production move.

CTS Server Admin	8	<b>Create Migration Plan and Back-out Plan</b>
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A Migration Plan is needed to guide the migration effort. The Back-out Plan will be used in case a problem arises that cannot be resolved during the migration window. Escalation contacts and decision making timeframes will be identified as part of the Back-out Plan.

CTS & Customer	9	<b>MEET: move planning session(s)</b>
CTS & Customer	10	<b>Agree upon migration date / time for move</b>

CTS and the Customer will meet to review and refine high-level move, test, and back-out plans. A migration script will be used and customized, when necessary, to fit each application. This may require multiple meetings depending on the complexity of the move.

The date and time (window) for migrating server(s) must be coordinated with all impacted parties (CTS and the Customer). This becomes the target date of the move.

CTS Server Admin	11	<b>Submit change request for migration</b>
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A change request must be submitted to CTS's internal change management system. This provides documentation required to migrate servers.

<b>7 TO 30 DAYS BEFORE MIGRATION</b>
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CTS TSD	12	<b>Extend network (VLAN and OOB) connection(s) to the SDC</b>
CTS TSD	13	<b>Re-number VLANs is into appropriate range</b>

Extending the Virtual Local Area Network (VLAN) and Out-of-Band (OOB) connections to the SDC is required to allow the server system to access interfacing components in the same way as prior to the move (layer 2 extensions). This makes the network between OB2 and the SDC look like a single network. The OOB connection allows the CTS Server Admin access to the system outside of the SGN or other operational network.

In some cases, VLANs must be renumbered when consolidating into the SDC Network Core. This prevents conflicts when different VLANs with the same number on different networks are extended into the SDC Network Core.

CTS Server Admin	14	<b>Upgrade server monitoring</b>
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CTS is standardizing the server monitoring tool. Servers must be added or upgraded to use the tool to allow the system to be monitored in the SDC.

CTS Server Admin	15	<b>Generate appropriate benchmarks or capture system logs</b>
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The CTS Server Admin will generate and record performance benchmarks or capture system logs with performance data as appropriate. This information can be used to identify differences in system performance before and after the move.

CTS Server Admin	16	<b>Verify server (system) backup</b>
CTS Server Admin	17	<b>Verify database (business data) backups</b>

The server and database backup and recovery process needs to be exercised to verify that it is working and current. CTS will test this function as it could be needed in a recovery scenario.

Customer	18	<b>Develop test scenarios</b>
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The Customer will need to develop test scenarios to execute immediately following the move. Test scenarios should exercise specific components that will validate the system is working and performing as expected.

<b>1 TO 7 DAYS BEFORE MIGRATION</b>
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CTS Server Admin	19	<b>Verify the VM is ready to move</b>
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Before moving the server, pending updates must be applied to the VM such as snapshots. The CTS Server Admin will check for these and commit or remove them if applicable.

CTS & Customer	20	<b>Freeze all changes (Application, Database, O/S, etc.)</b>
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The system must be stable prior to the move. All application, database and operating system changes should be frozen one week prior to the move. This simplifies troubleshooting in the event problems occur (avoids potential causes). The Customer must lead this activity for components controlled by the Customer.

CTS & Customer	21	<b>Review testing scenarios/plans and expectations</b>
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The Customer should provide CTS with the test scenarios that have been developed. This will help CTS understand the testing and the timeframes that are anticipated to perform post migration testing.

CTS & Customer	22	<b>MEET: move planning session</b>
CTS & Customer	23	<b>Confirm Migration Schedule and Plan (Go/No Go)</b>

CTS and the Customer will meet to finalize the migration, test and back-out plans. This includes the move script and is the final check-in prior to the migration day.

CTS will check-in with the Customer to verify, confirm and make final adjustments (if any) to the schedule and migration plan.

<b>1 DAY BEFORE MIGRATION</b>
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CTS Server Admin	24	<b>Create full system backup</b>
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A full system backup is needed just prior to the migration. This might be needed in case a problem occurs that requires a system recovery.

<b>MIGRATION DAY</b>
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CTS Server Admin	25	<b>Perform Database point in time backup (if applicable)</b>
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A point-in-time backup is needed immediately prior to the system move. This will allow database recovery if a problem arises that requires a database restore.

CTS & Customer	26	<b>Assemble Move Team</b>
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The CTS Server Admin will assemble the move team to start the process. This is the final go/no go point.

CTS Server Admin	27	<b>Send notification of the start of the Server Move</b>
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The CTS Server Admin will notify CTS staff and management the start of the server move.

CTS Move Team	28	<b>PERFORM MIGRATION: Execute Server Move Plan/Script</b>
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The CTS team will start the move process. This includes V-Motioning the VMs from hosts in OB2 to Hosts in the SDC. The CTS Server Admin will follow the move script.

CTS Server Admin	29	<b>Perform system verification</b>
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Once the VM(s) are migrated to the SDC, the CTS Server Admin will perform system verification. This includes verifying the appropriate processes are running, network connectivity is working and executing other test scenarios. If problems occur, other CTS resources will participate in troubleshooting and fixing problems.

CTS Move Team	30	<b>Notify the Customer to begin validation or initiate back-out</b>
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Once CTS staff has verified the system is working as expected, the CTS Server Admin will notify the Customer to begin application level validation. If issues occur that cannot be resolved within the negotiated migration window, CTS will notify the Customer that the Back-out Plan must be executed and the migration rescheduled.

Customer	31	<b>Perform application-level validation &amp; works with CTS to resolve any problems.</b>
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Once the system is turned over to the Customer, the Customer will perform application level testing and validation. This is needed to avoid unplanned system outages and includes running the test scenarios previously created. If problems occur, the Customer will notify the CTS contact to initiate troubleshooting to correct the problem.

Customer	32	<b>Notify CTS that application-level validation is complete or initiate back out plan.</b>
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Once the Customer has completed their system validation and check-out, they will notify CTS of the results of their testing. If successful, the Customer will approve the completion of the move by notifying the CTS Server Admin. If unacceptable or unsuccessful, the Customer will notify the CTS contact to execute the Back-out Plan.

CTS Server Admin	33	<b>Send notification of the end of the Server Move</b>
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The CTS Server Admin will notify CTS staff and management the end of the server move.

<b>POST MIGRATION</b>
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CTS Server Admin	34	<b>Generate post move performance benchmarks</b>
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CTS staff will monitor system performance up to one week after the server move(s) and report any problems.

CTS Server Admin & Customer(s)	35	<b>Verify that the VM is performing satisfactorily</b>
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Not all problems will show up in the verification steps listed above. Once the system is under a workload, performance or other problems may show up. If this occurs, the Customer should immediately report the problem to the CTS Service Desk.

CTS staff will contact the Customer after the move to verify the system is performing satisfactorily. If performance or other problems occur, a problem ticket will be reported to the CTS Service Desk.

CTS Service Owner	36	<b>Adjust Billing</b>
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The CTS Service owner will work with the Customer and the billing group to update any impacted billing processes.

CTS Server Admin	37	<b>Decommission the old VM</b>
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If the system is performing as expected after the migration, the old servers will be decommissioned.

## Section 2 – Physical Servers

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The following tasks apply to physical server migrations:

### Migration Tasks

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#### 30 TO 60 DAYS BEFORE MIGRATION

CTS Client Liaison	1	<b>Identify Move Team including customer contact(s)</b>
CTS Client Liaison	2	<b>Schedule Move Planning Session(s)</b>

The CTS Client Liaison must work with the CTS project manager and the AIC to identify the resources required to move and validate the system. This “move team” will perform the move and verification activities.

The CTS Client Liaison will schedule meetings needed to plan and coordinate the move.

CTS Server Admin	3	<b>Apply software patches to bring the server up-to date</b>
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Prior to the move, the operating system software needs to be upgraded to the latest versions. This ensures software versions are at vendor supported levels in-case of problems.

CTS Server Admin	4	<b>Perform EMC Grab for SAN connected servers</b>
CTS Server Admin	5	<b>Update server per the EMC Grab recommendations (if applicable)</b>

For servers with Storage Area Network (SAN) connections, the EMC Grab must be run to identify any software versions that are incompatible with the EMC storage solution used at CTS. Once the Grab is complete, staff will apply required software updates prior to the migration.

CTS Server Admin	6	<b>Update PowerPath (if applicable)</b>
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This activity will update the PowerPath software on servers moving to the SDC to ensure it is compatible with the storage system. This applies only to servers that access storage through the SAN.

CTS Server Admin	7	<b>Convert from KVM to ILO</b>
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CTS is standardizing on the Integrated Lights Out (ILO) software tool to gain out-of-band access to servers. The Keyboard Video Mouse (KVM) product is being decommissioned. KVM will be converted to ILO while the system is still in OB2 (pre-migration effort).

CTS PM	8	<b>Request SDC network connections (ILO/IMM &amp; network)</b>
CTS Server Admin	9	<b>Request ILO/IMM IP address for server in SDC</b>
CTS Provisioning	10	<b>Assign ILO/IMM IP address for server</b>

To establish out-of-band access to the server(s) and VLAN extensions, network connections must be installed. This activity initiates that process along with requesting and assigning the IP addresses.

CTS Server Admin	11	<b>Document server specs for facilities and current network connections (visually inspect the server)</b>
CTS PM	12	<b>Request SDC hardware enclosure space</b>
CTS PM	13	<b>Facilities consult complete</b>

To ensure all necessary cabling and connections are addressed, the physical server(s) must be inspected. This will identify anything that may have been missed in the documentation.

The hardware enclosure space needed to support the hardware being moved must be requested and designed. Hardware requirements will be identified along with an inventory of devices being moved. Product information (e.g. make, model and product vendor name) will be entered into the Data Center Infrastructure Management (DCIM) tool to provide the exact location where each device will be placed in the enclosure. Network connections are included as SDC Facilities provides all the cabling external to the enclosure.

Once the enclosure space has been identified and all hardware requirements documented, the facilities consult is complete.

CTS Server Admin	14	<b>Schedule time to reboot server (power cycle)</b>
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Hardware components can have problems when powered off after running for a long time. This activity will schedule a time when the server(s) can be shut-down and rebooted to catch any potential problems caused by a power restart. This reduces the potential hardware related problems caused from physically moving a server.

CTS Server Admin	15	<b>Confirm backup configuration and schedule</b>
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Before the server is cut-over, the Server Admin must confirm the configuration and schedule for the system backup.

CTS Server Admin	16	<b>Submit change request for migration</b>
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A change request must be submitted to CTS's internal change management system. This provides documentation required to migrate servers.

CTS Server Admin	17	<b>Create Migration Plan and Back-out Plan</b>
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A Migration Plan is needed to guide the migration effort. The Back-out Plan will be used in case a problem arises that cannot be resolved during the migration window. Escalation contacts and decision making timeframes will be identified as part of the Back-out Plan.

CTS & Customer	18	<b>MEET: Move Planning Session(s)</b>
CTS & Customer	19	<b>Agree upon migration date / time for Move</b>

CTS and the Customer will meet to review and refine high-level move, test and back-out plans. A migration script will be used and customized, when necessary, to fit each application. This may require multiple meetings depending on the complexity of the move.

The date and time (window) for migrating server(s) must be coordinated and with all impacted parties (CTS and the Customer). This becomes the target date of the move.

<b>7 TO 30 DAYS BEFORE MIGRATION</b>
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CTS TSD	20	<b>Extend network (VLAN and OOB) connection(s) to the SDC</b>
CTS TSD	21	<b>Re-number VLANs is into appropriate range</b>

Extending the Virtual Local Area Network (VLAN) and Out-of-Band (OOB) connections to the SDC is required to allow the server system to access interfacing components in the same way as prior to the move (layer 2 extensions). This makes the network between OB2 and the SDC look like a single network. The OOB connection allows the server admin access to the system outside of the SGN or other operational network.

In some cases, VLANs must be renumbered when consolidating into the SDC Network Core. This prevents conflicts when different VLANs with the same number on different networks are extended into the SDC Network Core.

CTS Server Admin	22	<b>Upgrade server monitoring</b>
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CTS is standardizing the server monitoring tool. Servers must be added or upgraded to use the tool to allow the system to be monitored in the SDC.

CTS Server Admin	23	<b>Generate appropriate benchmarks, capture system logs</b>
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The CTS Server Admin will generate and record performance benchmarks or capture system logs with performance data as appropriate. This information can be used to identify differences in system performance before and after the move.

CTS Server Admin	24	<b>Verify server (system) backup</b>
CTS Server Admin	25	<b>Verify database (business data) backups</b>

The server and database backup and recovery process needs to be exercised to verify that it is working and current. CTS will test this function as it could be needed in a recovery scenario.

Customer	26	<b>Develop test scenarios</b>
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The Customer will need to develop test scenarios to execute immediately following the move. Test scenarios should exercise specific components that will validate the system is working and performing as expected.

CTS Server Admin	27	<b>Reboot server (Power cycle)</b>
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Hardware components can have problems when powered off after running for a long time. This activity will shut-down and reboot the server to catch any potential problems caused by a power restart. This reduces the potential hardware related problems caused from physically moving a server.

CTS TSD	28	<b>Confirm network connections and VLAN extension</b>
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This activity includes verifying network cabling, configurations and VLAN extensions are either in place or are on schedule.

<b>1 TO 7 DAYS BEFORE MIGRATION</b>
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CTS & Customer	29	<b>Freeze all changes (Application, Database, O/S)</b>
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The system must be stable prior to the move. All application, database and operating system changes should be frozen one week prior to the move. This simplifies troubleshooting incase problems occur (avoids potential causes). The Customer must lead this activity for components controlled by the customer. CTS will lead this activity for components controlled by CTS.

CTS & Customer	30	<b>Review testing scenarios/plans and expectations</b>
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The Customer should provide CTS with the test scenarios that have been developed. This will help CTS understand the testing and the timeframes that are anticipated to perform post migration testing.

CTS & Customer	31	<b>MEET: Move planning session</b>
CTS & Customer	32	<b>Confirm Migration Schedule and Plan (Go/No Go)</b>

CTS and the Customer will meet to finalize the migration, test and back-out plans. This includes the move script and is the final check-in prior to the migration day.

CTS will check-in with the Customer to verify, confirm and make final adjustments (if any) to the schedule and migration plan.

<b>ONE DAY BEFORE MIGRATION</b>
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CTS Server Admin	33	<b>Create Full System Backup</b>
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A full system backup is needed just prior to the migration. This might be needed in case a problem occurs that requires a system recovery.

<b>MIGRATION DAY</b>
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CTS Server Admin	34	<b>Shutdown / Perform cold Database backup (if possible)</b>
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A database backup is required before the server(s) is moved to allow a database recovery if necessary. This captures incremental changes since the last full system backup.

CTS & Customer	35	<b>Assemble Move Team</b>
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The CTS Server Admin will assemble the move team to start the process. This is the final go/no go point.

CTS Server Admin	36	<b>Send notification of the start of the Server Move</b>
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The CTS Server Admin will notify CTS staff and management the start of the server move.

CTS Move Team	37	<b>PERFORM MIGRATION: Execute Server Move Plan/Script</b>
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The CTS team will start the move process. This includes disconnecting, transporting and re-connecting servers from OB2 to the SDC. The CTS Server Admin will follow the move script. Once the migration has completed, the validation can start.

CTS Server Admin	38	<b>Perform system verification</b>
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Once the servers(s) are migrated to the SDC, the CTS Server Admin will perform system verification. This includes verifying the appropriate processes are running, network connectivity is working and executing other test scenarios. If problems occur, other CTS resources will participate in troubleshooting and fixing problems.

CTS Server Admin	39	<b>Notify the Customer to begin validation or initiate back-out</b>
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Once CTS staff has verified the system is working as expected, the CTS Server Admin will notify the Customer to begin application level validation. If issues occur that cannot be resolved within the negotiated migration window, CTS will notify the Customer that the Back-out Plan must be executed and the migration rescheduled.

Customer	40	<b>Perform application-level validation &amp; works with CTS to resolve any problems.</b>
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Once the system is turned over to the Customer, the Customer will perform application level testing and validation. This is needed to avoid unplanned system outages and includes running the test scenarios previously created. If problems occur, the Customer will notify the CTS contact to initiate troubleshooting to correct the problem.

Customer	41	<b>Notify CTS that application-level validation is complete or initiate back out plan.</b>
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Once the Customer has completed their system validation and check-out, they will notify CTS of the results of their testing. If successful, the Customer will approve the completion of the move by notifying the CTS Server Admin. If unacceptable or unsuccessful, the Customer will notify the CTS contact to execute the back-out plan.

CTS Server Admin	42	<b>Send notification of the end of the Server Move</b>
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The CTS Server Admin will notify CTS staff and management the end of the server move.

**POST MIGRATION – ONE WEEK**

CTS Server Admin	43	<b>Generate post move performance benchmarks</b>
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CTS staff will monitor system performance up to one week after the server move(s) and report any problems.

CTS Server Admin & Customer(s)	44	<b>Verify that the server is performing satisfactorily</b>
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Not all problems will show up in the verification steps listed above. Once the system is under a workload, performance or other problems may show up. If this occurs, the Customer should immediately report the problem to the CTS Service Desk.

CTS staff will contact the Customer after the move to verify the system is performing satisfactorily. If performance or other problems occur, a problem ticket will be reported to the CTS Service Desk.

CTS Service Owner	45	<b>Adjust Billing</b>
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The CTS Service owner will work with the Customer and the billing group to update any impacted billing processes.

CTS Server Admin	46	<b>Clean-up cabling, network ports and documentation</b>
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Once the system is performing as expected, clean-up activities can begin. This includes cleaning up cabling, network ports, and documentation.

## Appendix A - Virtual Server Migration Checklist

Agency		Technical Lead	
Server Name			
<b>MIGRATION TASKS FOR VIRTUAL SERVERS</b>			
<b>30 TO 60 DAYS BEFORE MIGRATION</b>			
Party	Task #	Task Description	Complete?
CTS Client Liaison	1	Identify Move Team including customer contact(s)	<input type="checkbox"/>
CTS Client Liaison	2	Schedule Move Planning Session(s)	<input type="checkbox"/>
CTS Server Admin	3	Apply software patches to bring the server up-to date	<input type="checkbox"/>
CTS Server Admin	4	Verify destination data-store has enough free space for VM	
CTS Server Admin	5	Verify the data-store is present on the target host and can support a test VM	<input type="checkbox"/>
CTS Server Admin	6	Confirm backup configuration and schedule	<input type="checkbox"/>
CTS Server Admin	7	Test vMotion – vMotion a test server in the extended VLAN and verify	<input type="checkbox"/>
CTS	8	Create Migration and Back-out Plan	<input type="checkbox"/>
CTS & Customer	9	MEET: Move Planning Session(s)	<input type="checkbox"/>
CTS & Customer	10	Agree upon migration date / time for Move	<input type="checkbox"/>
CTS Server Admin	11	Submit change request for migration	<input type="checkbox"/>
<b>7 TO 30 DAYS BEFORE MIGRATION</b>			
CTS TSD	12	Extend network (VLAN and OOB) connection(s) to the SDC	<input type="checkbox"/>
CTS TSD	13	Re-number VLANs is into appropriate range	<input type="checkbox"/>
CTS Server Admin	14	Upgrade server monitoring	<input type="checkbox"/>
CTS Server Admin	15	Generate appropriate benchmarks or capture system logs	<input type="checkbox"/>
CTS Server Admin	16	Verify server (system) backup	<input type="checkbox"/>
CTS Server Admin	17	Verify database (business data) backups	<input type="checkbox"/>
Customer	18	Develop test scenarios	<input type="checkbox"/>
<b>1 TO 7 DAYS BEFORE MIGRATION</b>			
CTS Server Admin	19	Verify the VM is ready to move	<input type="checkbox"/>
CTS & Customer	20	Freeze all changes (Application, Database, O/S, etc.)	<input type="checkbox"/>
CTS & Customer	21	Review testing scenarios/plans and expectations	<input type="checkbox"/>
CTS & Customer	22	MEET: Move planning session	<input type="checkbox"/>
CTS & Customer	23	Confirm Migration Schedule and Plan (Go/No Go)	<input type="checkbox"/>
<b>ONE DAY BEFORE MIGRATION</b>			
CTS Server Admin	24	Create Full System Backup	<input type="checkbox"/>
<b>MIGRATION DAY</b>			
CTS Server Admin	25	Perform Database point in time backup (if applicable)	<input type="checkbox"/>
CTS & Customer	26	Assemble Move Team	<input type="checkbox"/>
CTS Server Admin	27	Send notification of the start of the Server Move	<input type="checkbox"/>
CTS Move Team	28	PERFORM MIGRATION: Execute Server Move Plan/Script	<input type="checkbox"/>
CTS Server Admin	29	Perform system verification	<input type="checkbox"/>
CTS Server Admin	30	Notify the Customer to begin validation or initiate back-out plans	<input type="checkbox"/>
Customer	31	Perform application-level validation & works with CTS to resolve any problems.	<input type="checkbox"/>

Customer	32	Notify CTS that application-level validation is complete or initiate back out plan.	<input type="checkbox"/>
CTS Server Admin	33	Send notification of the end of the Server Move	<input type="checkbox"/>
<b>POST MIGRATION</b>			
CTS Server Admin	34	Generate post move performance benchmarks	<input type="checkbox"/>
CTS Server Admin & Customer(s)	35	Verify that the VM is performing satisfactorily	<input type="checkbox"/>
CTS Service Owner	36	Adjust Billing	<input type="checkbox"/>
CTS Server Admin	37	Decommission the old VM	<input type="checkbox"/>
<b>AGENCY VALIDATION</b>			
Agency:			
Name:			
Signature:			
Date:			

## Appendix B - Physical Server Migration Checklist

Agency		Technical Lead	
Server Name			
<b>MIGRATION TASKS FOR PHYSICAL SERVERS</b>			
<b>30 TO 60 DAYS BEFORE MIGRATION</b>			
Party	Task #	Task Description	Complete?
CTS Client Liaison	1	Identify Move Team including customer contact(s)	<input type="checkbox"/>
CTS Client Liaison	2	Schedule Move Planning Session(s)	<input type="checkbox"/>
CTS Server Admin	3	Apply software patches to bring the server up-to date	<input type="checkbox"/>
CTS Server Admin	4	Perform EMC Grab for SAN connected servers	<input type="checkbox"/>
CTS Server Admin	5	Update server per the EMC Grab recommendations (if applicable)	<input type="checkbox"/>
CTS Server Admin	6	Update PowerPath (if applicable)	<input type="checkbox"/>
CTS Server Admin	7	Convert from KVM to ILO	<input type="checkbox"/>
CTS PM	8	Request SDC network connections (ILO/IMM & network)	<input type="checkbox"/>
CTS Server Admin	9	Request ILO/IMM IP address for server in SDC	<input type="checkbox"/>
CTS Provisioning	10	Assign ILO/IMM IP address for server	<input type="checkbox"/>
CTS Server Admin	11	Document server specs for facilities and current network connections (visually inspect the server)	<input type="checkbox"/>
CTS PM	12	Request SDC hardware enclosure space	<input type="checkbox"/>
CTS PM	13	Facilities consult complete	<input type="checkbox"/>
CTS Server Admin	14	Schedule time to reboot server (power cycle)	<input type="checkbox"/>
CTS server Admin	15	Confirm backup configuration and schedule	<input type="checkbox"/>
CTS Server Admin	16	Submit change request for migration	<input type="checkbox"/>
CTS Server Admin	17	Create Migration Plan and Back-out Plan	<input type="checkbox"/>
CTS & Customer	18	MEET: Move Planning Session(s)	<input type="checkbox"/>
CTS & Customer	19	Agree upon migration date / time for Move	<input type="checkbox"/>
<b>7 TO 30 DAYS BEFORE MIGRATION</b>			
CTS TSD	20	Extend network (VLAN and OOB) connection(s) to the SDC	<input type="checkbox"/>
CTS TSD	21	Re-number VLANs is into appropriate range	<input type="checkbox"/>
CTS Server Admin	22	Upgrade server monitoring	<input type="checkbox"/>
CTS Server Admin	23	Generate appropriate benchmarks, capture system logs	<input type="checkbox"/>
CTS Server Admin	24	Verify server (system) backup	<input type="checkbox"/>
CTS Server Admin	25	Verify database (business data) backups	<input type="checkbox"/>
Customer	26	Develop test scenarios	<input type="checkbox"/>
CTS Server Admin	27	Reboot server (Power cycle)	<input type="checkbox"/>
CTS TSD	28	Confirm network connections and VLAN extension	<input type="checkbox"/>
<b>1 TO 7 DAYS BEFORE MIGRATION</b>			
CTS & Customer	29	Freeze all changes (Application, Database, O/S)	<input type="checkbox"/>
CTS & Customer	30	Review testing scenarios/plans and expectations	<input type="checkbox"/>
CTS & Customer	31	MEET: Move planning session	<input type="checkbox"/>
CTS & Customer	32	Confirm Migration Schedule and Plan (Go/No Go)	<input type="checkbox"/>
<b>ONE DAY BEFORE MIGRATION</b>			
CTS Server Admin	33	Create Full System Backup	<input type="checkbox"/>
<b>MIGRATION DAY</b>			
CTS Server Admin	34	Shutdown / Perform cold Database backup (if possible)	<input type="checkbox"/>

CTS & Customer	35	Assemble Move Team	<input type="checkbox"/>
CTS Server Admin	36	Send notification of the start of the Server Move	<input type="checkbox"/>
CTS Move Team	37	Execute Server Move Plan/Script	<input type="checkbox"/>
CTS Server Admin	38	Perform system verification	<input type="checkbox"/>
CTS Server Admin	39	Notify the Customer to begin validation or initiate back-out plan	<input type="checkbox"/>
Customer	40	Perform application-level validation & works with CTS to resolve any problems.	<input type="checkbox"/>
Customer	41	Notify CTS that application-level validation is complete or initiate back out plan.	<input type="checkbox"/>
CTS Server Admin	42	Send notification of the end of the Server Move	<input type="checkbox"/>
<b>POST MIGRATION – ONE WEEK</b>			
CTS Server Admin	43	Generate post move performance benchmarks	<input type="checkbox"/>
CTS Server Admin & Customer(s)	44	Verify that the server is performing satisfactorily	<input type="checkbox"/>
CTS Service Owner	45	Adjust Billing	<input type="checkbox"/>
CTS Server Admin	46	Clean-up cabling, network ports and documentation	<input type="checkbox"/>
<b>AGENCY VALIDATION</b>			
Agency:			
Name:			
Signature:			
Date:			