CLAIMS

~~1.~~ 1. A computer-implemented method for performing ~~a~~ live ~~update~~updates, the method comprising:

determining a migration type for a live migration to be performed from a source server to a target server;

performing the live migration from the source server to the target server;

based on the migration type, maintaining pages to be migrated;

tracking modifications in a hypervisor page table; and

performing a back-migration based on the migration type, wherein tracking the modifications comprises using a modification-after-migration (MAM) bit to indicate pages that have been modified.

2. The computer-implemented method of claim 1, further comprising tracking modifications during the live migration in a hypervisor table of the target server.

3. The computer-implemented method of claim 2, further comprising tracking modifications occurring after the live migration is completed in a second hypervisor table of the target server.

4. The computer-implemented method of ~~any of the preceding claims~~claim 1, further comprising determining whether the migration type is a permanent migration or a temporary migration.

5. The computer-implemented method of claim 4, responsive to determining the migration type is a permanent migration, freeing page memory of the source server associated with the permanent migration.

~~6. The computer-implemented method of any of the preceding claims, wherein tracking the modifications comprises using the modification-after-migration (MAM) bit to indicate pages that have been modified.~~

~~7.~~ The computer-implemented method of claim ~~6~~1, wherein the back-migration only transmits changes in the hypervisor table indicated by the MAM bit, wherein the changes are combined with the pages that are maintained in the source server.

~~8.~~ 7. A system ~~for performing live updates, the system,~~ comprising:

one or more processors; and

at least one memory coupled to the one or more processors, wherein the one or more processors are configured to:

determine a migration type for a live migration to be performed from a source server to a target server;

perform the live migration from the source server to the target server;

based on the migration type, maintain pages to be migrated;

track modifications in a hypervisor page table; and

perform a back-migration based on the migration type, wherein tracking the modifications comprises using a modification-after-migration (MAM) bit to indicate pages that have been modified.

~~9.~~ 8. The system of claim ~~8~~7, wherein the one or more processors are configured to track modifications during the live migration in a hypervisor table of the target server.

~~10.~~ 9. The system of claim ~~9~~8, wherein the one or more processors are configured to track modifications occurring after the live migration is completed in a second hypervisor table of the target server.

~~11.~~ 10. The system of ~~any of claims 8 to 10~~claim 7, wherein the one or more processors are configured to determine whether the migration type is a permanent migration or a temporary migration.

~~12.~~ 11. The system of claim ~~11~~10, responsive to determining the migration type is a permanent migration, the one or more processors are configured to free page memory of the source server associated with the permanent migration.

~~13. The system of any of claims 8 to 12, wherein tracking the modifications uses the modification-after-migration (MAM) bit to indicate pages that have been modified.~~

~~14. The system of claim 13~~12. The system of claim 7, wherein the back-migration only transmits changes in the hypervisor table indicated by the MAM bit, wherein the changes are combined with the pages that are maintained in the source server.

~~15.~~ 13. A computer program product for performing ~~a~~ live ~~update~~updates, the computer program product comprising:

a computer~~-~~readable storage medium ~~readable by a processing circuit and storing~~ having stored thereon program instructions ~~for execution by the processing circuit for performing a method according~~executable by a processor to ~~any of claims 1~~cause the processor to ~~7.~~:

~~16. A~~determine a migration type for a live migration to be performed from a source server to a target server;

perform the live migration from the source server to the target server;

based on the migration type, maintain pages to be migrated;

tracking modifications in a hypervisor page table; and

perform a back-migration based on the migration type, wherein tracking the modifications uses a modification-after-migration (MAM) bit to indicate pages that have been modified.

14. The computer program ~~stored on a~~ product of claim 13, wherein the instructions are further executable by the processor to cause the processor to track modifications during the live migration in a hypervisor table of the target server.

15. The computer ~~readable medium and loadable into the internal memory of a digital~~program product of claim 14, wherein the instructions are further executable by the processor to cause the processor to track modifications occurring after the live migration is completed in a second hypervisor table of the target server.

16. The computer~~, comprising software code portions, when said program is run on a~~ program product of claim 13, wherein the instructions are further executable by the processor to cause the processor to determine whether the migration type is a permanent migration or a temporary migration.

17. The computer~~, for performing the method of any of claims 1 to 7~~ program product of claim 14, wherein the instructions are further executable by the processor to cause the processor to responsive to determining the migration type is a permanent migration, free page memory of the source server associated with the permanent migration.

-18. The computer program product of claim 13, wherein the back-migration only transmits changes in the hypervisor table indicated by the MAM bit, wherein the changes are combined with the pages that are maintained in the source server.