US President Barack Obama waves as he arrives at the Royal Palace Huis ten Bosch in The Hague on March 24, 2014

US President Barack Obama is proposing to end the National Security Agency's controversial bulk telephone data collection, exposed by fugitive intelligence contractor Edward Snowden.

A senior administration official said Tuesday that Obama had considered the results of a study he ordered in January into how the NSA could protect national interests without storing citizens' private data.

The plan would store the data outside of government while allowing access for national security reasons, the official said.

Obama "will put forward a sound approach to ensuring the government no longer collects or holds this data, but still ensures that the government has access to the information it needs to meet the national security needs his team has identified," the official said.

The comments came after reports in the New York Times and Washington Post that a major reform of data collection by US intelligence agencies was imminent.

The National Security Agency will end its "systematic collection of data about Americans' calling habits," the Times reported.

The Times reported that the records would stay in the hands of phone companies, which would not be required to retain the data for any longer than they normally would, and that the NSA would be obtain specific records with permission from a judge, using a new kind of court order.

A trove of documents leaked by former Snowden sparked outrage in the United States and abroad about the vast capabilities of America's intelligence programs.

Officials have defended the methods as necessary to thwart terror attacks but US public opinion was shocked by the extent of the NSA's activities on home soil.

The administration proposal will extend the current program of mass metadata collection for one more 90-day authorization period..

After that, the senior official said, Congress will be expected to have passed a new law authorizing a more limited procedure.

Separately, The Washington Post reported that leaders of the House Intelligence Committee have drafted a bill intended as a compromise on reforming the collection practices.

"We believe this can be the solution for those of us who want to preserve important national security capabilities while heeding the legitimate concerns of many that the collection of bulk telephone metadata has a potential for abuse," committee chairman Mike Rogers, a defender of the NSA's bulk-collection authority, was quoted as saying.