

higher version and the lower version and a document of the higher version by using at least one differentiation model between data models between the higher version and the lower version in the conversion stack, and storing the document of the lower version, and the documents of intermediate versions between the higher version or the lower version or the relevant information therein;

providing the document of the higher version to an application of the higher version, so that required modifications to the document of the higher version is performed by the application of the higher version;

successively converting the modified document of the higher version into at least one modified documents of intermediate versions and a modified document of the lower version by using at least one differentiation model between data models between the higher version and the lower version in the conversion stack, and by successively merging with stored documents of intermediate versions between the higher version and the lower version and the document of the lower version or the relevant information therein through a merging module; and

sending the modified document of the lower version to the application of the lower version.

16. The apparatus of claim **15**, further comprising:
 a merging module configured for successively merging incomplete documents of intermediate versions and an incomplete document of the lower version successively converted from the modified document of the higher version with the stored documents of intermediate versions between the higher version and the lower version and the stored document of the lower version or the

relevant information therein, so as to generate the modified documents of intermediate versions and the modified document of the lower version.

17. The apparatus of claim **10**, wherein;
 the conversion stack further includes a verification model which contains rules for verifying whether a document conform to a data model; and
 the apparatus further comprises a verification module configured for verifying a converted document according to the verification model so as to make the converted document conform to the data model of the versions as the conversion target.

18. The apparatus of claim **10**, further comprising:
 a model extractor for obtaining the data models of different versions of an application; and
 a model comparator for generating differentiation models between data models of different versions of the application according to the data models of different versions of the application, and storing the differentiation models in the conversion stack.

19. A computer readable article of manufacture tangibly embodying computer readable instructions which, when executed by the computer, cause the computer to carry out the steps of:

providing a conversion stack which includes differentiation models between data models of different versions of an application; and

converting between documents of different versions of the application by using the conversion stack to provide compatibility between the documents of the different versions of the application.

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