



Time Machine® Benefits & Overview

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1. Introduction

Time Machine® is a patent-pending software product that provides virtual clocks to facilitate application testing, what-if analyses, and time zone adjustment. It is a proven solution widely utilized by Fortune 500 and Global 1000 companies, as well as 47 of the Fortune 100 companies.

Time Machine provides up to 20,000 virtual clocks per system, each of which can be set to any time in the past, present, or future; and can run faster, slower, frozen, or at the same speed as the system clock. Time Machine eliminates the need to reset the system clock, which is time-consuming, error-prone, and not possible under **Active Directory** or in a **Kerberos** secured environment. Days can be saved with each virtual clock, resulting in a productivity boost. With multiple virtual clocks, a single test environment can become multiple test environments utilizing concurrent running tests.

Time Machine's new **variable speed clock** feature allows software applications to travel through time at a user-defined pace. With this new update, QA or software simulation users can run their set of applications at any defined speed: up to 1,000 times faster than real-time or down to 1,000 times slower.

2. Challenges without Time Machine

Resetting the system clock is dangerous and can cause data corruptions when time goes backward. If the system clocks need to go back "in the past" relative to current time; then it is system reload time! It can take days to reload the OS, data base, and applications.

Each system clock change is also time-consuming. Shut down all applications. Shut down all databases. Change system clock. Restart all databases. Restart all applications. Testers typically do not have privilege to do it. The application administrator, database administrator, and system administrator could be from different divisions. It is not uncommon to

take 2 to 3 days for each clock change without Time Machine! With Time Machine, testers can set virtual clocks by themselves on the fly, without waiting.

There is only one system clock per system/environment. Therefore, the test environment availability is limited. If tester A is testing 9/30/2011 and tester B wants to test 12/31/2011, tester B may need to wait until tester A is done. With Time Machine, one test environment can become multiple test environments.

For Active Directory or Kerberos secure environments, changing the system clock is not even possible. The user cannot login into the network if the system clock is even 5 minutes away from the system clock of the domain server. Time Machine is the only solution for forward date testing in secure environments.

3. Time Machine Benefits

- Facilitates faster application roll-outs and system migrations
- Mitigate risks for mission-critical application failures
- Boosts Quality Assurance team productivity
- Sole solution for Active Directory or Kerberos date based testing
- Save significant hardware & software costs

4. Supported Technologies

Operating Systems:	Windows, HP-UX, Solaris, Linux, AIX, MPE
Virtualization:	VMware, LPARs, Zones, Hyper-V
Runtime Environments:	.Net, Web Sphere, WebLogic, Citrix
Databases:	Oracle, DB2, Microsoft SQL, Sybase
Applications:	CRM, ERP, SAP, Oracle, Peoplesoft, Siebel, Tibco, and many others

5. Verticals using Time Machine

Banking, Government, Energy, Telecom, Insurance, Life Sciences, Transportation, and others...

6. SAP Testing

Solution-Soft's Time Machine has been a fundamental tool used by many SAP customers for more than a decade. All of our SAP customers have seen faster and easier deployments from using Time Machine, which resulted in significant time & cost savings.

7. IS-U / CCS - SAP Module (Industry Specific Solution for Utilities - Customer Care & Service)

Using Time Machine, customers are able to effectively test all pre & post-production changes to the SAP system, and in addition, leverage virtual dates to provide condensed time-based training to their end users.

The use of Time Machine has given the Time Machine customer the means to achieve a timely implementation of changes to their multiple SAP modules by significantly speeding up the usually lengthy test-fix-test cycle typical to deployments of SAP. Time Machine allows users to condense test cycles to achieve a huge increase of ROI.

8. Migration Testing

Solution-Soft's numerous customers have found that using Time Machine to test and validate all date & time logic within their new or migrated environments has allowed them to complete their migration process on-time and under budget. By providing unique and individual virtual dates & times to users of the system, Time Machine can allow any tester to run any module under any specific virtual date needed. This allows the testing group to simultaneously run certain processes with a simulated end-of-month, while others can be checked for any future year-end validity, and other applications run in real-time. Users of Time Machine can easily condense a month's-worth of processing down to a week, or a year's-worth of processing to a month.

9. Active Directory Testing

Time Machine provides the only way to thoroughly date test software applications in an Active Directory environment. The Time Machine software was engineered specifically to allow applications to maintain their security privileges with the AD domain while they move forward in time with a "virtual clock." This allows the processes under test to see all their necessary network resources while testing is completed.

10. Customer Quotes

"Our client, one of the largest gas trading companies, is very happy with Time Machine. Without it, it would have been extremely cumbersome, resource intensive, & costly to do the same type of SAP application testing & certification."

- James Fish, SAP Basis Consultant – Accenture

"Using Time Machine, Telstra was able to test all the scenarios of their SAP R/3 upgraded release in the allotted project time, while saving money on system administrator resources."

- Pooven Govender, Consultant/SAP BASIS Team - Deloitte Consulting - Telstra

11. SAP Case Studies

[Energy Customer success story](#) SAP testing & training on HP-UX & Solaris

[Deloitte Consulting/Telstra](#) SAP & Oracle running on AIX UNIX