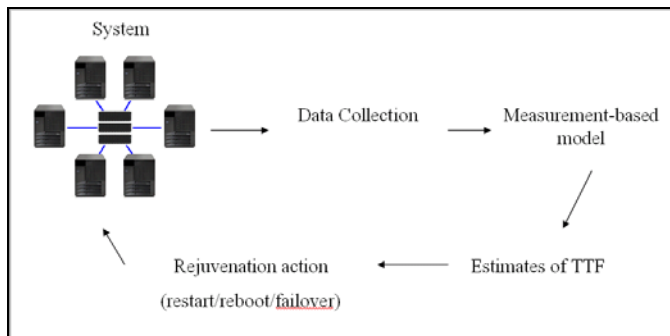


# Center for Advanced Computing and Communication (CACC)

North Carolina State University and Duke University  
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## Software Rejuvenation



CACC researchers led by Duke professor Kishor Trivedi have developed a method to detect problems of memory leak, data corruption, and fragmentation that have plagued a wide range of computer systems and networking components. These problems build up over time and lead to performance degradation, hanging, and other failures of computing systems. Memory leak is a phenomenon in which memory resources in computing systems decrease over time and eventually cause system problems.

The problem occurs because software programs request memory but sometimes don't release it, and this unreleased memory accumulates over time.

The researchers collected empirical data on these problems at the center and developed a way to monitor the course of the deterioration and to predict when future problems would occur so that preventive measures could be taken. This software rejuvenation method has been adopted by IBM in their X-series servers, and other companies including Sun Microsystems and Microsoft are in the process of adopting this technology. For more information, contact Dr. Kishor Trivedi, 919-401-0299 ext. 306; e-mail: [kst@ee.duke.edu](mailto:kst@ee.duke.edu).

