



(12) **United States Patent**  
**Steinberg et al.**

(10) **Patent No.:** **US 8,751,186 B2**  
(45) **Date of Patent:** **\*Jun. 10, 2014**

(54) **SYSTEM AND METHOD FOR CALCULATING THE THERMAL MASS OF A BUILDING**

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(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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This patent is subject to a terminal disclaimer.

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(21) Appl. No.: **13/858,710**

U.S. Appl. No. 13/523,697, Jun. 14, 2012, Hublou, Scott Douglas et al.

(22) Filed: **Apr. 8, 2013**

(Continued)

(65) **Prior Publication Data**  
US 2013/0231785 A1 Sep. 5, 2013

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**Related U.S. Application Data**

(63) Continuation of application No. 13/409,729, filed on Mar. 1, 2012, which is a continuation of application No. 12/959,225, filed on Dec. 2, 2010, now Pat. No. 8,131,497, which is a continuation of application No. 12/211,733, filed on Sep. 16, 2008, now Pat. No. 7,848,900.

(57) **ABSTRACT**

(60) Provisional application No. 60/994,011, filed on Sep. 17, 2007.

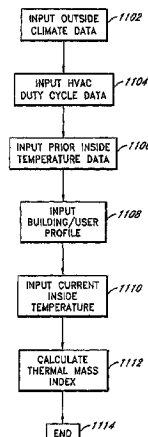
The invention comprises a system for calculating a value for the effective thermal mass of a building. The climate control system obtains temperature measurements from at least a first location conditioned by the climate system. One or more processors receive measurements of outside temperatures from at least one source other than the control system and compare the temperature measurements from the first location with expected temperature measurements. The expected temperature measurements are based at least in part upon past temperature measurements obtained by said HVAC control system and said outside temperature measurements. The processors then calculate one or more rates of change in temperature at said first location.

(51) **Int. Cl.**  
**G01D 1/00** (2006.01)

(52) **U.S. Cl.**  
USPC ..... **702/130; 702/182**

(58) **Field of Classification Search**  
USPC ..... 702/130, 182; 700/276, 277, 278;  
236/91 D; 165/58, 200, 287  
See application file for complete search history.

**13 Claims, 13 Drawing Sheets**



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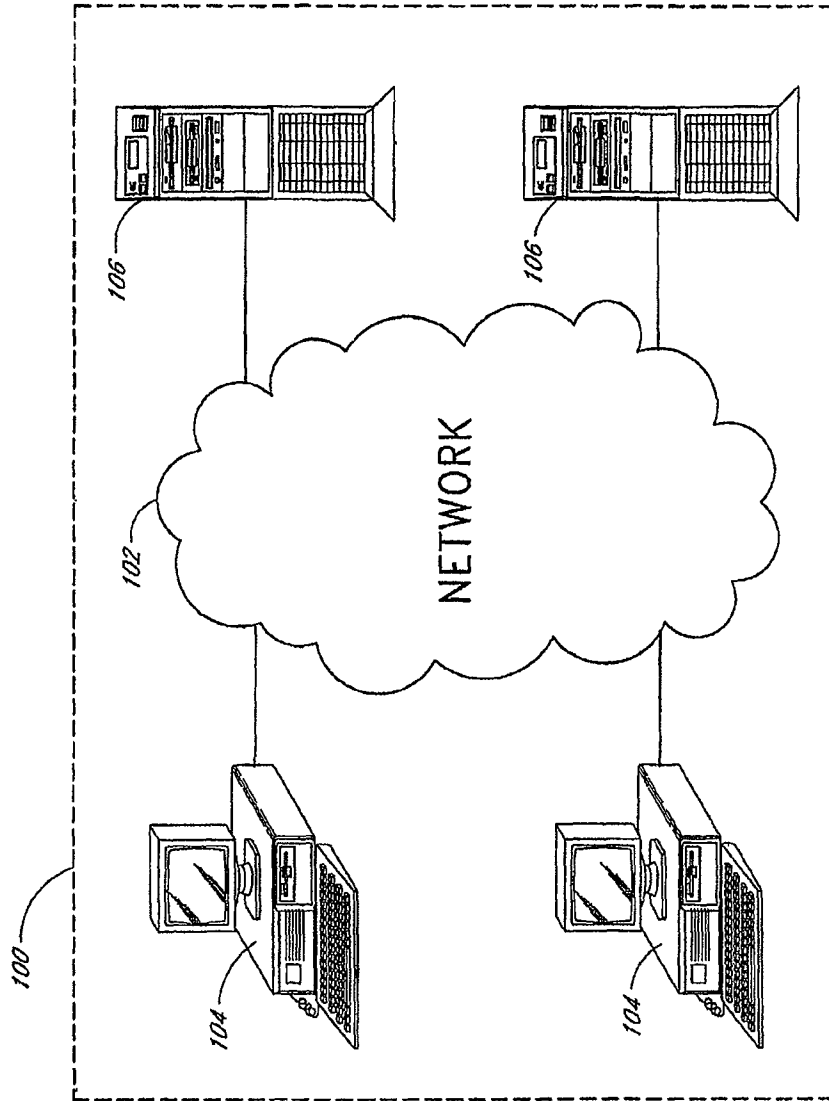


FIG. 1

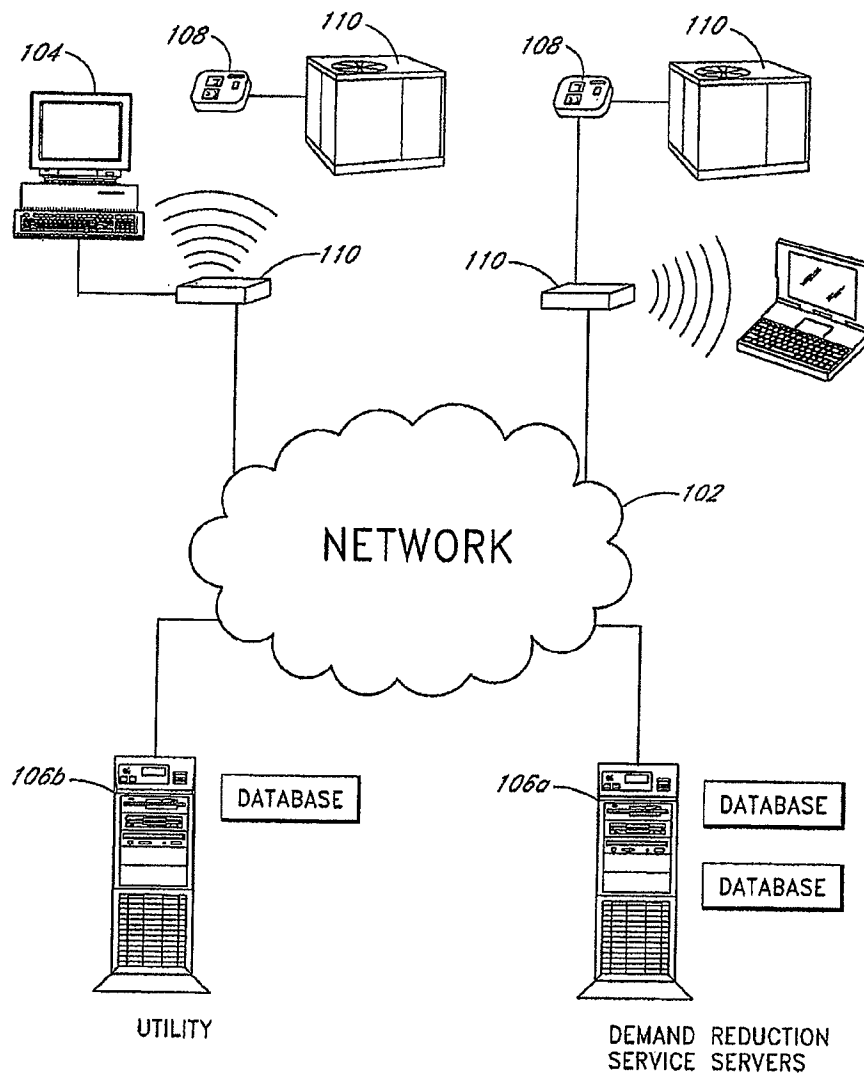


FIG. 2

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