

*Motorola Mobility, Inc. v. Apple, Inc.,*

Case No. 1:10-CV-23580-UU (S.D. Fla.)

**'119 Patent  
Technology Tutorial**

# '119 Patent

'119 Patent

## United States Patent [19] Deluca et al.

<b>United States Patent</b> [19]		[11] Patent Number: <b>5,754,119</b>			
Deluca et al.		[43] Date of Patent: <b>May 19, 1998</b>			
[54] <b>MULTIPLE PAGER STATUS SYNCHRONIZATION SYSTEM AND METHOD</b>		5,221,835 07/1997 Cohen et al. 5,223,835 07/1997 Deluca et al. 340823.44 5,230,229 10/1993 Deluca et al. 340823.44 5,245,227 10/1994 Cohen et al. 340823.44 E 5,481,225 07/1995 Frenkel et al. 340823.47 5,581,848 08/1998 Mowat 340823.44 X 5,884,513 07/1999 Micallef 340823.44			
[73] Inventor: <b>Michael J. Deluca; Joan S. Deluca, both of Boca Raton, Fla.</b>		<b>OTHER PUBLICATIONS</b>			
[73] Assignee: <b>Motorola, Inc., Schaumburg, Ill.</b>		Motorola Patent Family 233 Service Manual, 1995 by Motorola, Inc., Boynton Beach, Florida, part No. 6821034892, Aug. 1995.			
[21] Appl. No. <b>832,805</b>		Motorola Patent Family 233 Consumer Supplement, 1995 by Motorola, Inc., Boynton Beach, Florida, part No. 6821034892, Aug. 1995.			
[22] Filed: <b>Aug. 31, 1995</b>		Introduction to the Wireless Context, 1995 by Motorola, Inc., Fort Worth, Texas, part No. 682081001, August 1995.			
[31] Int. Cl. <sup>5</sup> <b>H04Q 7/26</b>		<b>Primary Examiner—Michael Harbitt</b>			
[32] U.S. Cl. <b>340823.21; 340731.1; 340823.44; 370731; 423426; 433743; 433748; 433750</b>		<b>Assistant Examiner—William E. Wilson, Jr.</b>			
[33] Field of Search <b>340823.21; 311.1; 340823.44; 423427; 423428; 423429; 312-423741; 424; 312; 313; 42; 78; 370731; 311; 312; 313; 314</b>		[57] <b>ABSTRACT</b>			
[36] References Cited		Status changes made on first pager (130 and 530) are selectively communicated to an information (118 and 138) which communicates the status changes to other pagers (130 and 250) so that the other pagers make corresponding status changes. Thus, a user's status changes made on one pager are automatically made on the user's other pagers. Status changes include changes to received messages, alarm times, start times, and key word alerts.			
<b>U.S. PATENT DOCUMENTS</b>		<b>11 Claims, 3 Drawing Sheets</b>			
4,421,217 04/1982 Michel et al. 4,882,148 06/1995 Johnson et al. 4,884,229 06/1995 Deluca et al. 4,921,688 09/1995 Busch et al. 4,933,929 04/1996 Deluca et al. 5,124,699 08/1992 Mowat 5,133,582 09/1992 Davis 5,148,481 12/1992 Mahay et al.					

'119 Patent

### [54] MULTIPLE PAGER STATUS SYNCHRONIZATION SYSTEM AND METHOD

[75] Inventors: **Michael J. Deluca; Joan S. Deluca, both of Boca Raton, Fla.**

- Issued: May 19, 1998
- Filed: Aug. 31, 1995
- Asserted Claims: 1, 2, 5
- Accused Products: MobileMe, iPhone 3G S, iPhone 3G, iPhone 4G, iPad with 3G, iPad 2 with 3G, and iPod Touch
- Identified Product: Motorola Tango

# Motorola Tango

'119 Patent



# The Problem Addressed by the '119 Patent

'119 Patent

“Pagers come in different form factors or colors to complement a user’s attire. Thus, the user carries one pager at one time with one apparel outfit and another pager at another time with another outfit. For example, a neon colored belt worn pager is used for a day at the beach, and a black and gold pen pager with a business suit is used for an evening business meeting.”

'119 Patent, col. 1:15-21

# The Problem Addressed by the '119 Patent

'119 Patent



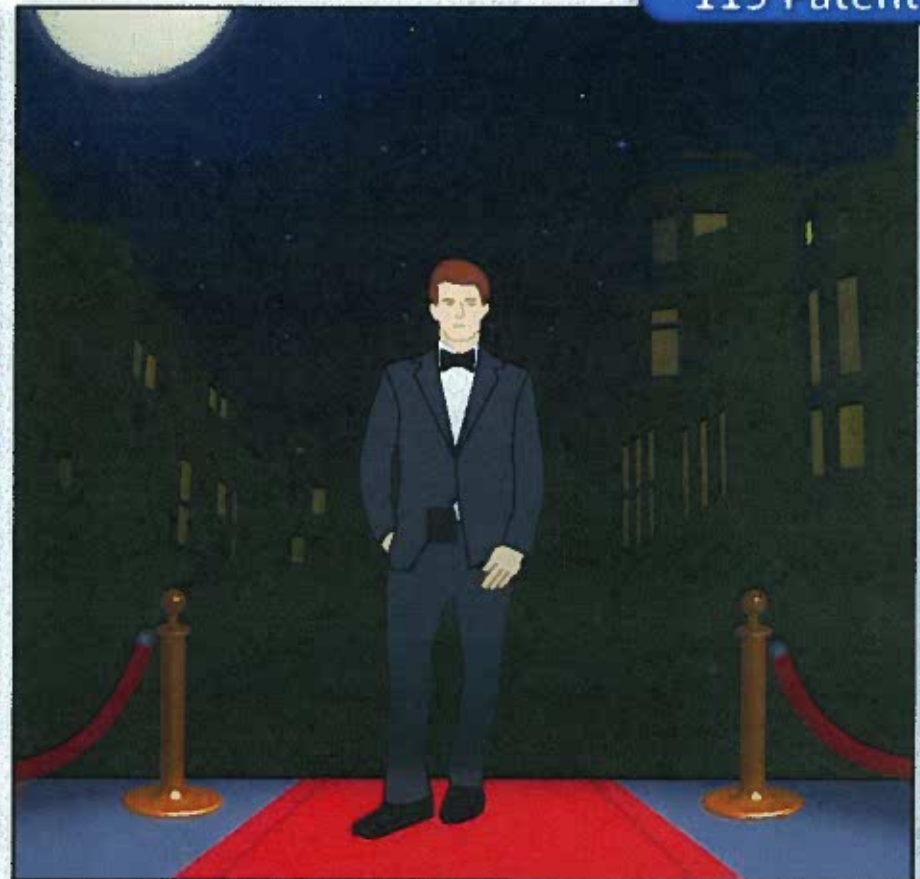
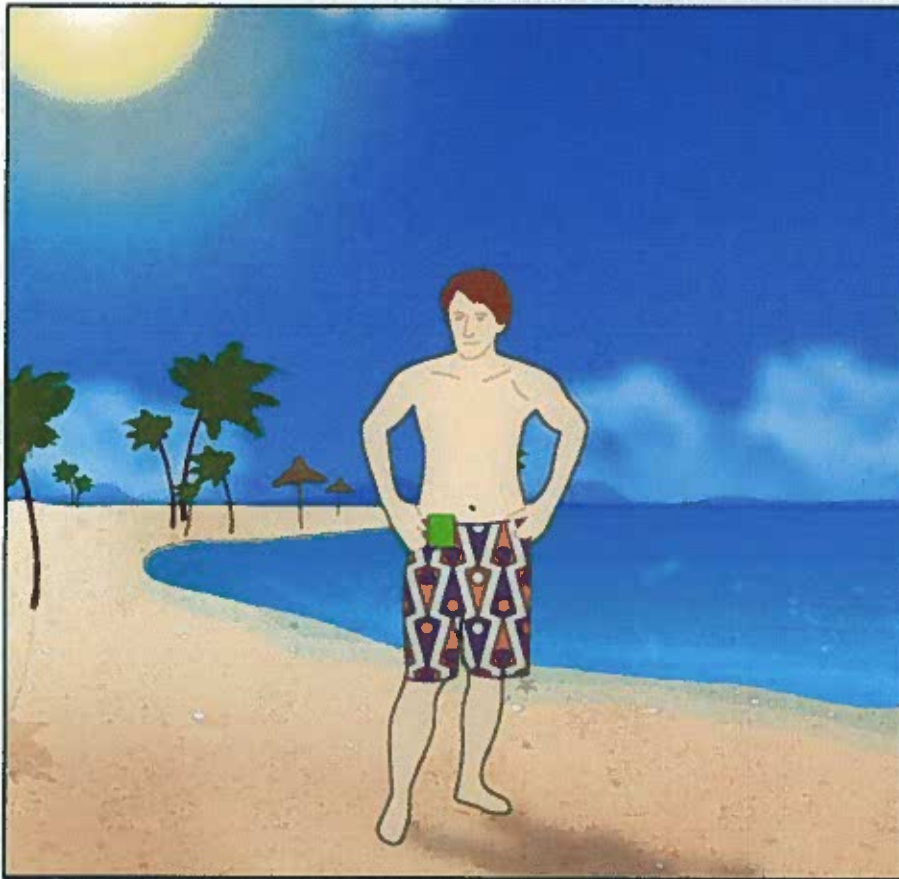
“Pagers come in different form factors or colors to complement a user’s attire. Thus, the user carries one pager at one time with one apparel outfit and another pager at another time with another outfit. For example, a neon colored belt worn pager is used for a day at the beach, and a black and gold pen pager with a business suit is used for an evening business meeting.”

'119 Patent, col. 1:15-21



# The Problem Addressed by the '119 Patent

'119 Patent



“Pagers come in different form factors or colors to complement a user’s attire. Thus, the user carries one pager at one time with one apparel outfit and another pager at another time with another outfit. For example, a neon colored belt worn pager is used for a day at the beach, and a black and gold pen pager with a business suit is used for an evening business meeting.”

'119 Patent, col. 1:15-21

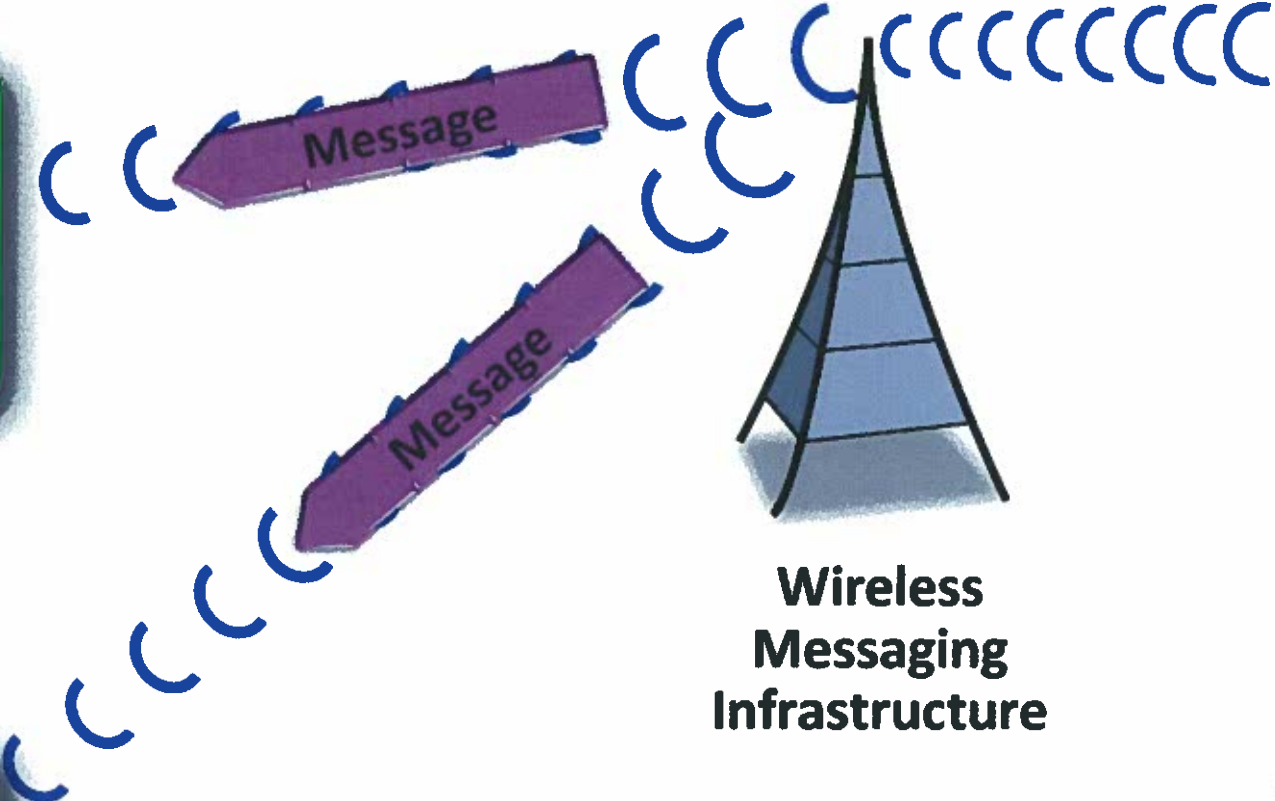
# The Problem

'119 Patent

**Beach Pager**



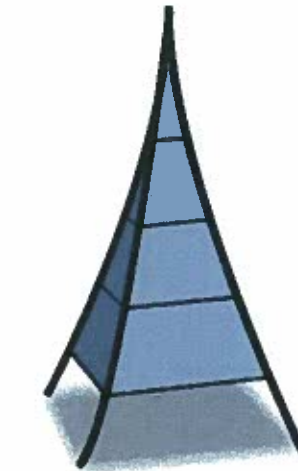
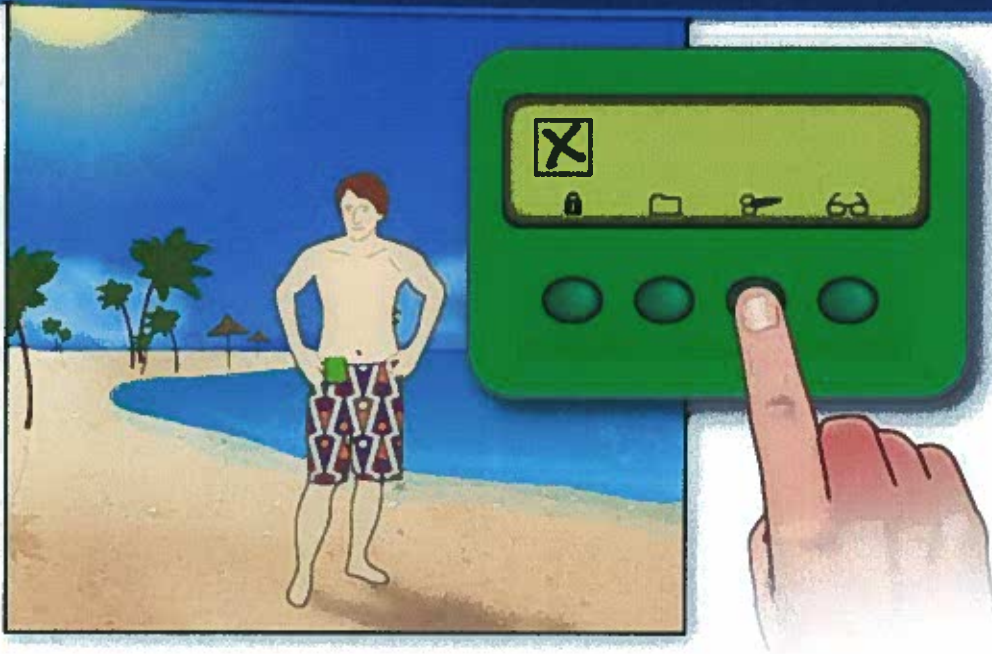
**Business Pager**





# The Problem: No Automatic Updates

'119 Patent



**Wireless  
Messaging  
Infrastructure**

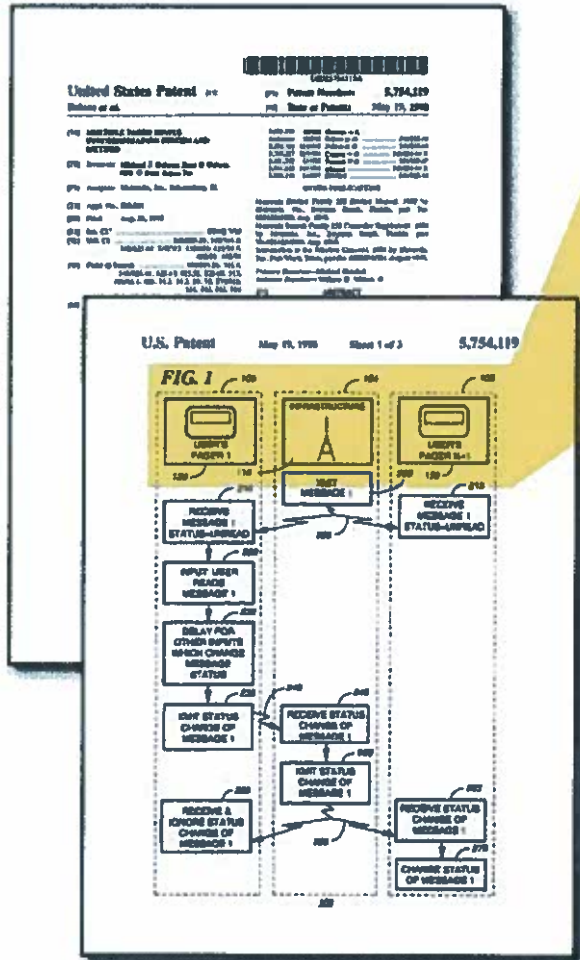




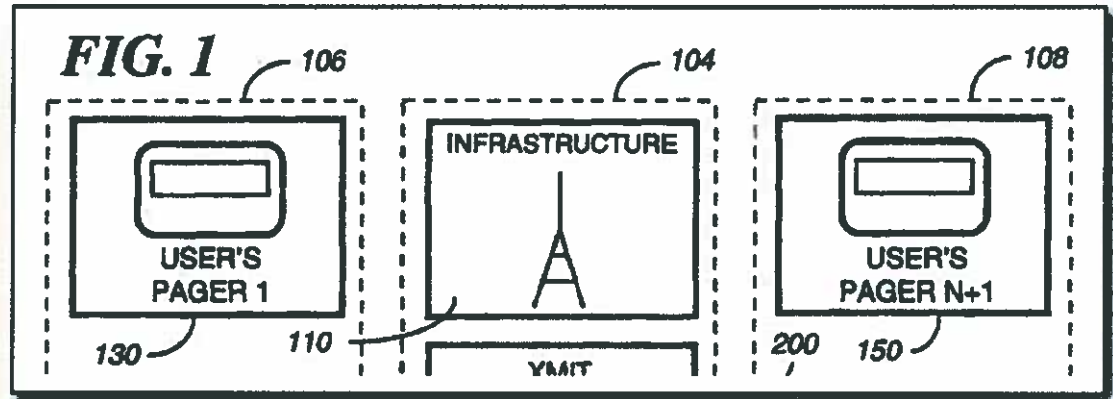


# The '119 Patent's Solution to the Problem

'119 Patent



'119 Patent, Fig. 1 (partial),  
Abstract

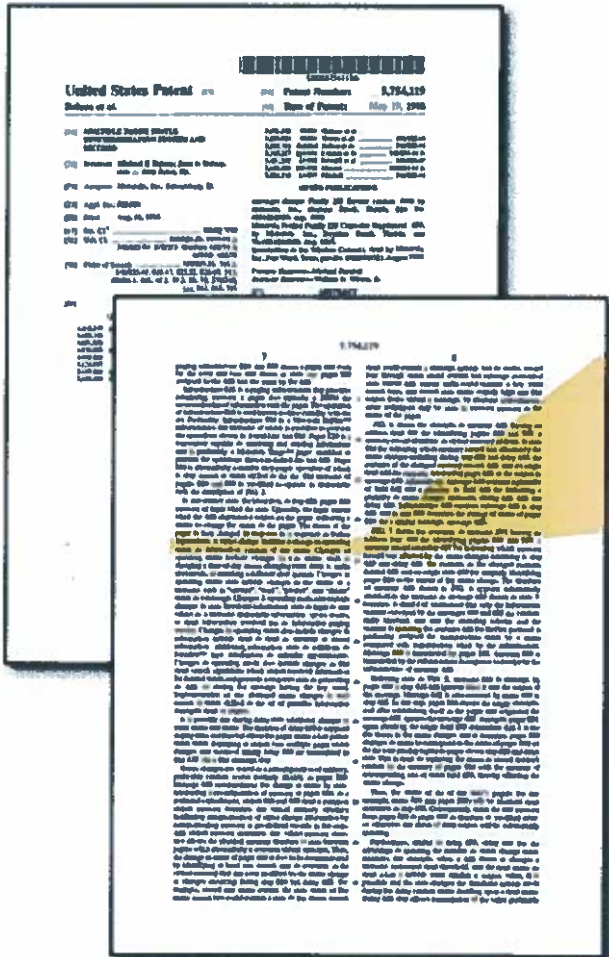


## ABSTRACT

Status changes made on first pager (130 and 530) are wirelessly communicated to an infrastructure (110 and 510) which communicates the status changes to other pagers (150 and 550) so that the other pagers make corresponding status changes. Thus, a user's status changes made on one pager are automatically made on the user's other pagers.

# "Status" Information

'119 Patent



“A status change includes a change in operating mode or information content of the pager.”

'119 Patent, col. 7:23-24



# “Status” Information: Changes to the Status of a Message

'119 Patent

“Changes in operating mode also include changes in the status of a message, such as ‘unread,’ ‘read,’ ‘protect,’ and ‘delete’ status of a message.”

'119 Patent, col. 7:27-30

**Unread**



**Read**



**Protect**

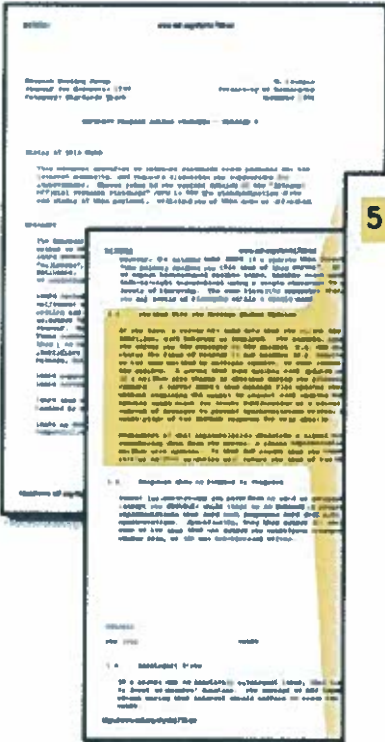


**Delete**



# State of the Art in 1995

'119 Patent



## 5.2. Mailbox Size and Message Status Updates

At any time, a server can send data that the client did not request. Sometimes, such behavior is required. For example, agents other than the server may add messages to the mailbox (e.g. new mail delivery), change the flags of message in the mailbox (e.g. simultaneous access to the same mailbox by multiple agents), or even remove messages from the mailbox. A server **MUST** send mailbox size updates automatically if a mailbox size change is observed during the processing of a command. A server **SHOULD** send message flag updates automatically, without requiring the client to request such updates explicitly. Special rules exist for server notification of a client about the removal of messages to prevent synchronization errors; see the description of the **EXPUNGE** response for more details.

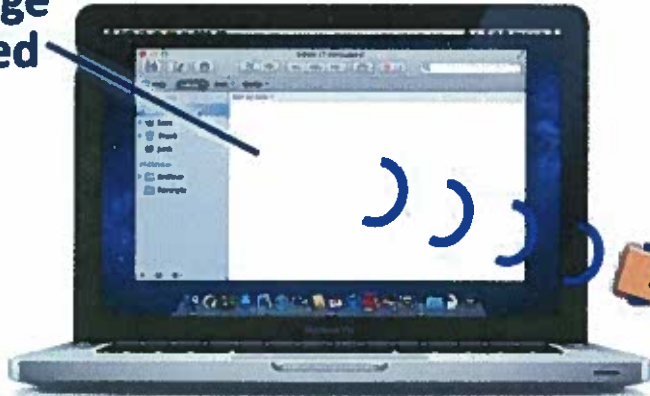
Regardless of what implementation decisions a client may take on remembering data from the server, a client implementation **MUST** record mailbox size updates. It **MUST NOT** assume that any command after initial mailbox selection will return the size of the mailbox.

*IMAP4 (December 1994)*

# Prior Art: IMAP4

'119 Patent

Message Deleted



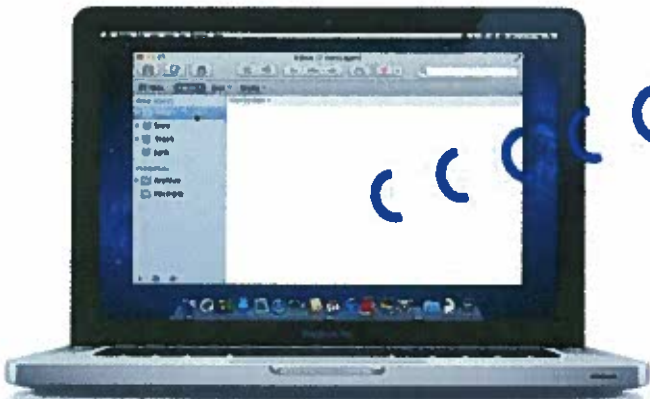
Computer A

Status update sent to IMAP Server



IMAP Server

Status Update  
IMAP Server automatically sends update to Computer B

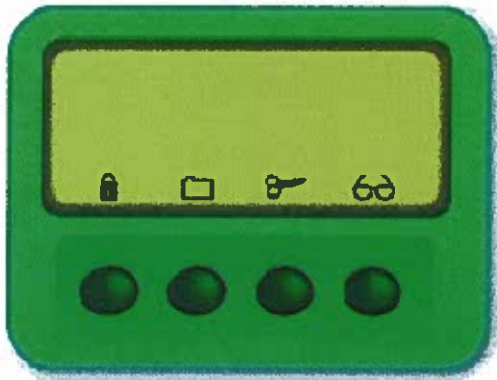


Computer B



# The Automatic Updating of the '119 Patent

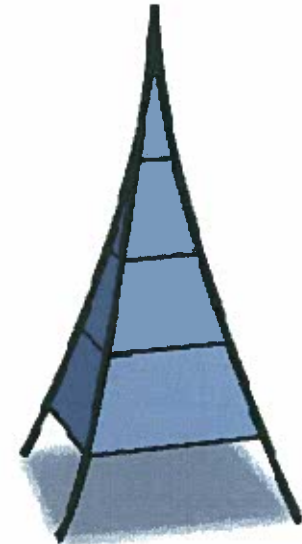
'119 Patent



Transceiver 1



Transceiver 2



Wireless Messaging Infrastructure

# Synchronization Method of the '119 Patent

'119 Patent

Status: Delete

User's Beach Pager



Status: Delete

Wireless  
Messaging  
Infrastructure



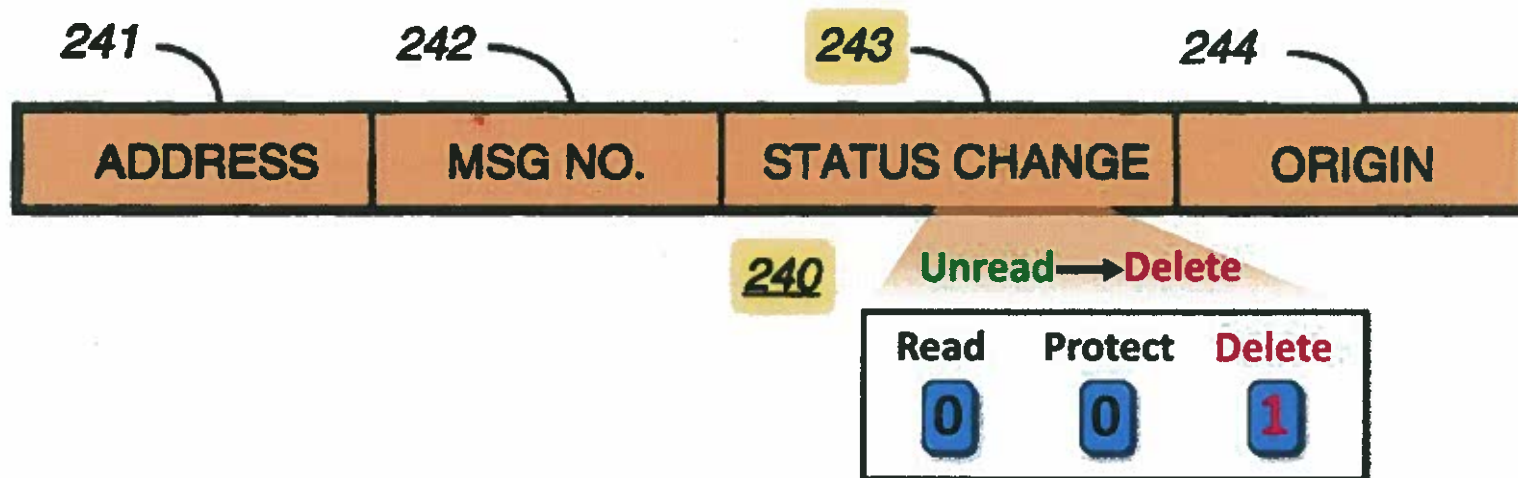
ORIGIN	MSG. NO.	STATUS CHANGE	ADDRESS
Beach Pager	Message #05	Unread → Delete	Pager Address

# Synchronization Method of the '119 Patent

'119 Patent

“Message 240 is a synchronizing signal in a forward channel message transmitted by a pager for reception by the infrastructure. The status change information field 243 comprises, in this embodiment, a status change control signal indicating that status change information (rather than some other type of information) follows, and three bits of status change information: a read/unread bit, a protect bit, and a delete bit. These three bits indicate the corresponding status of the identified message.”

'119 patent, col. 5:25-6:6





# Message Status Bits

'119 Patent

- When a new message arrives, the pager's memory has its 3 bits set to "0."



- When the user deletes the message, the "Delete" bit changes from "0" to "1."



# Bits Convey Information

'119 Patent

**0** = light OFF  
No new messages



**1** = light ON  
New message

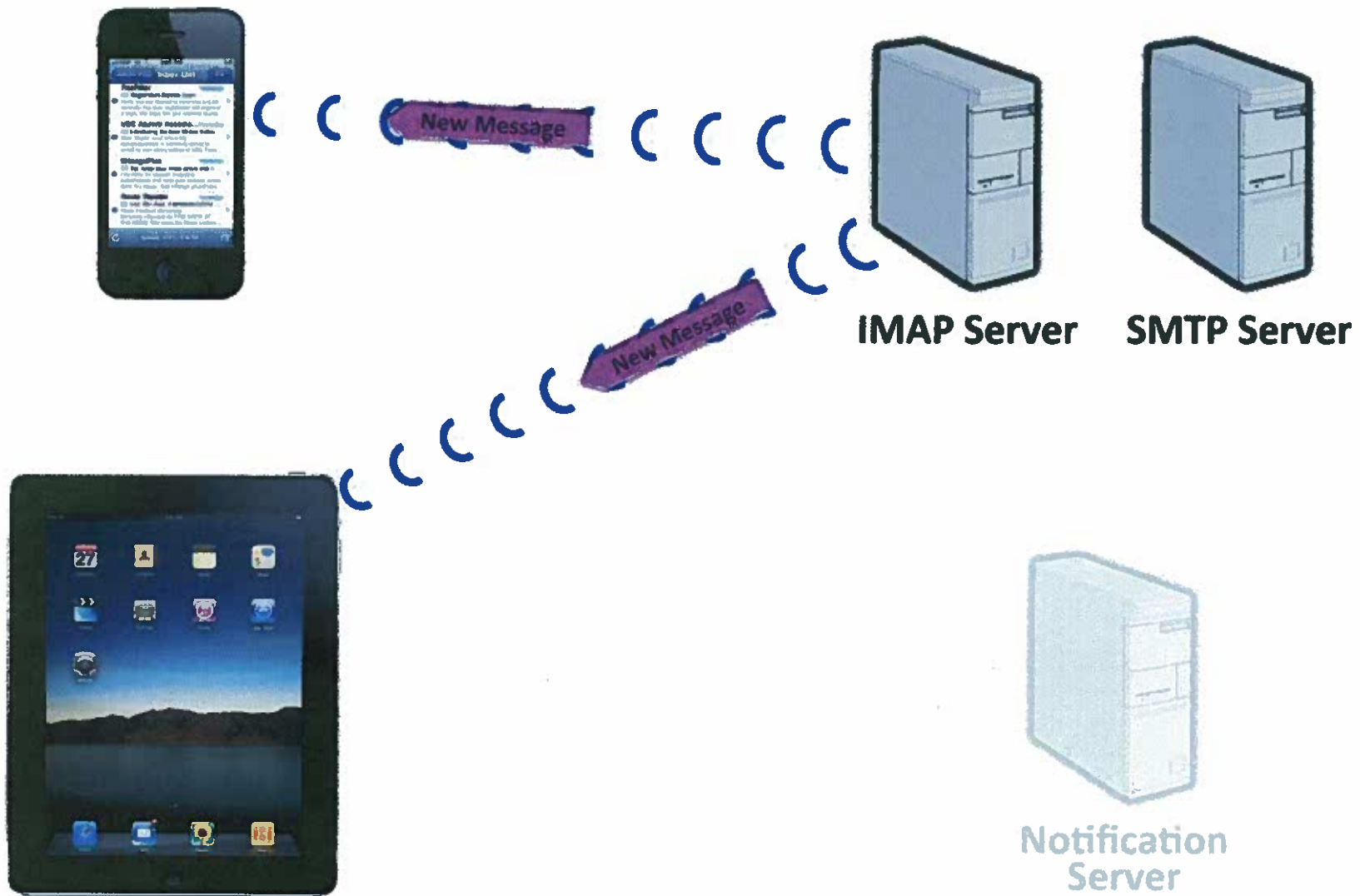


# What the Accused System Does NOT Do



# The Accused Products: No Automatic Update of Status Information

'119 Patent



# The Accused Products: No Automatic Update of Status Information

'119 Patent

Message Deleted



IMAP Server



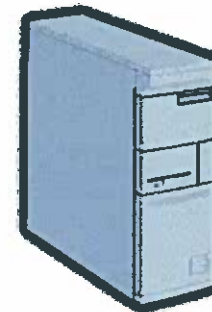
SMTP Server



Notification Server

# The Accused Products: No Automatic Update of Status Information

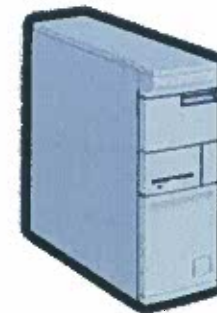
'119 Patent



**IMAP Server**



**SMTP Server**



**Notification  
Server**



# The Accused Products: No Automatic Update of Status Information

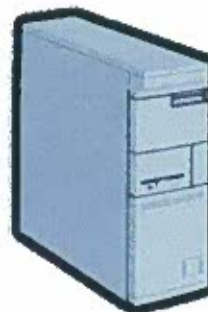
'119 Patent

Message Deleted



Status Update

Status update sent to IMAP server



IMAP Server



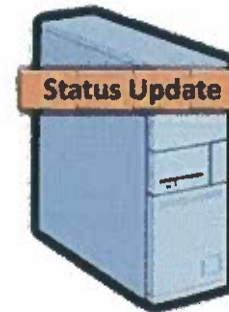
SMTP Server



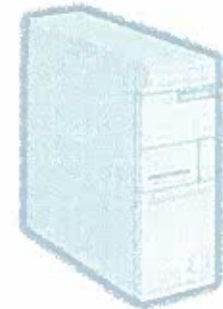
Notification Server

# The Accused Products: No Automatic Update of Status Information

'119 Patent



**IMAP Server**



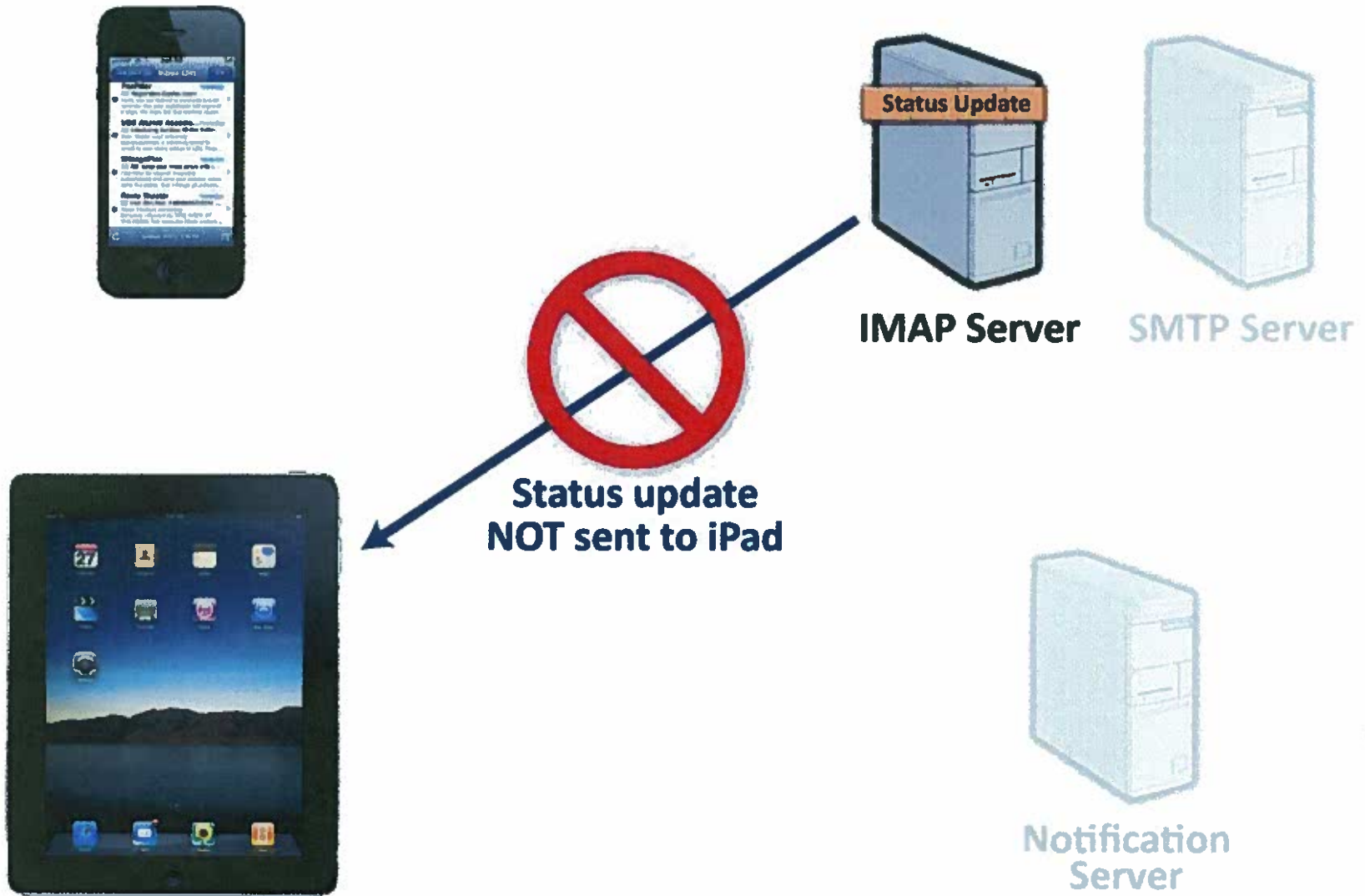
**SMTP Server**



**Notification Server**

# Accused System Does Not Automatically Update Message Status

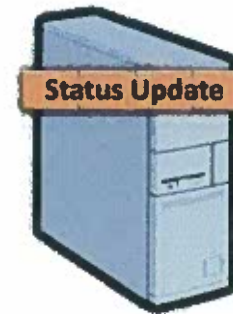
'119 Patent





# The Accused Products: No Automatic Update of Status Information

'119 Patent



IMAP Server



SMTP Server



Message NOT  
deleted on iPad

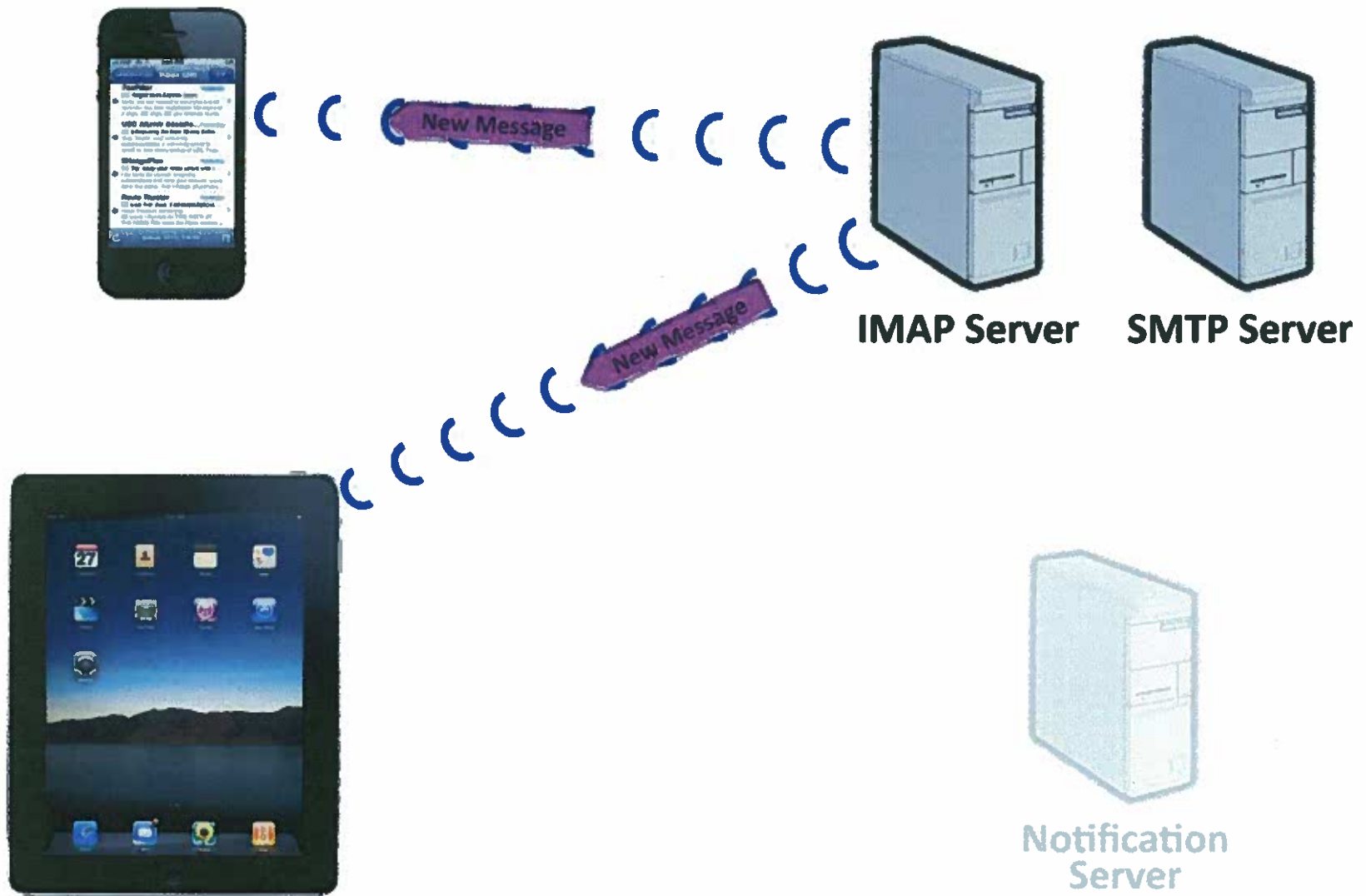


Notification  
Server

# How the Accused System DOES Update Status Information

# The Accused Products: No Automatic Update of Status Information

'119 Patent





# The Accused Products: No Automatic Update of Status Information

'119 Patent

Message Deleted



IMAP Server



SMTP Server



Notification Server

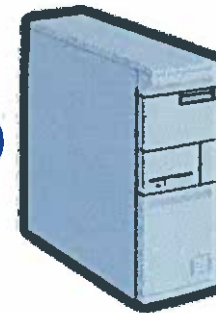
# The Accused Products: No Automatic Update of Status Information

'119 Patent

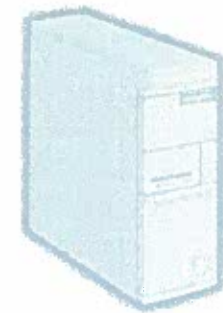
Message Deleted



Status update sent to IMAP server



IMAP Server



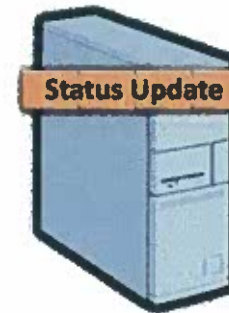
SMTP Server



Notification Server

# The Accused Products: No Automatic Update of Status Information

'119 Patent



**IMAP Server**



**SMTP Server**



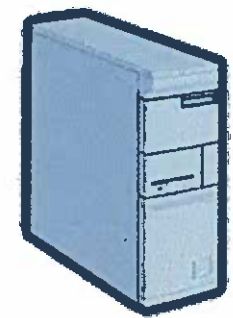
**Notification Server**

# The Accused Products: No Automatic Update of Status Information

'119 Patent



IMAP Server



SMTP Server

Notification Server  
watches SMTP server



Notification  
Server



# The Accused Products: No Automatic Update of Status Information

'119 Patent



**SMTP Server  
communicates  
message to  
IMAP Server**



**IMAP Server**

**SMTP Server**

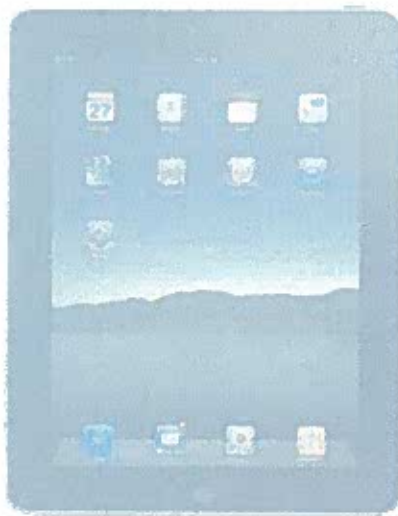
**Notification Server  
watches SMTP server**



**Notification  
Server**

# The Accused Products: No Automatic Update of Status Information

'119 Patent



IMAP Server



SMTP Server

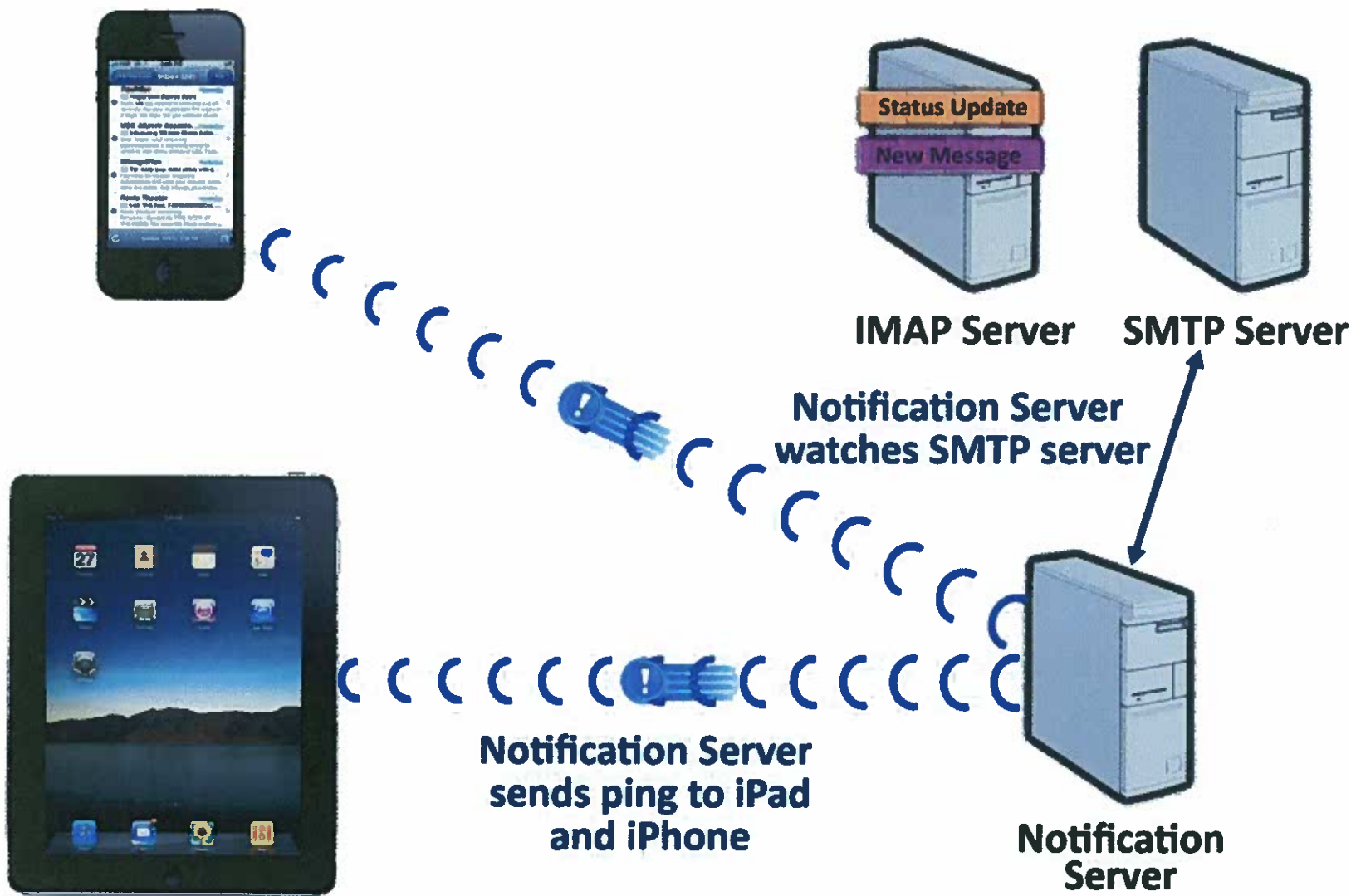
**Notification Server  
watches SMTP server**



**Notification  
Server**

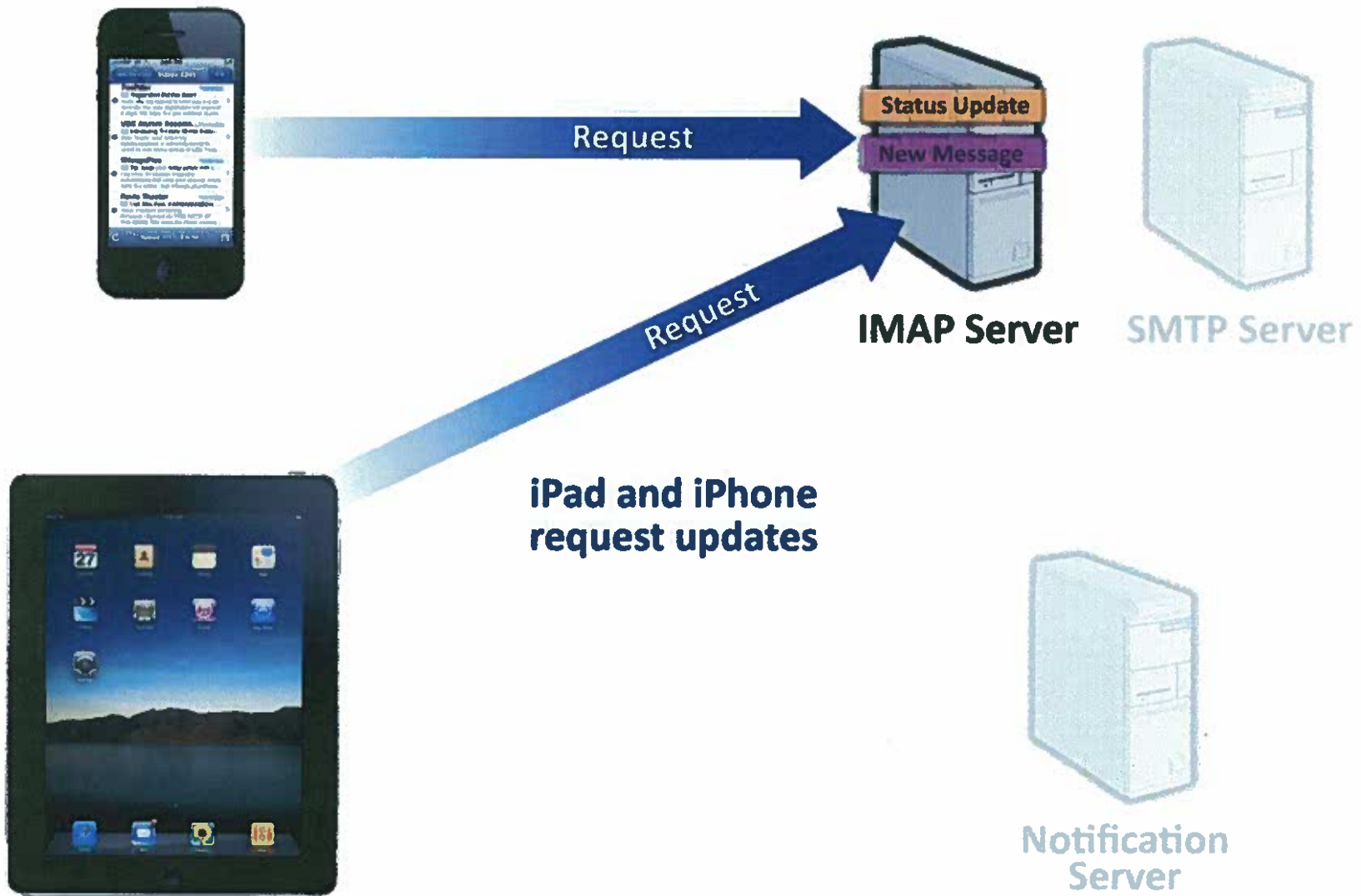
# The Accused Products: No Automatic Update of Status Information

'119 Patent



# The Accused Products: No Automatic Update of Status Information

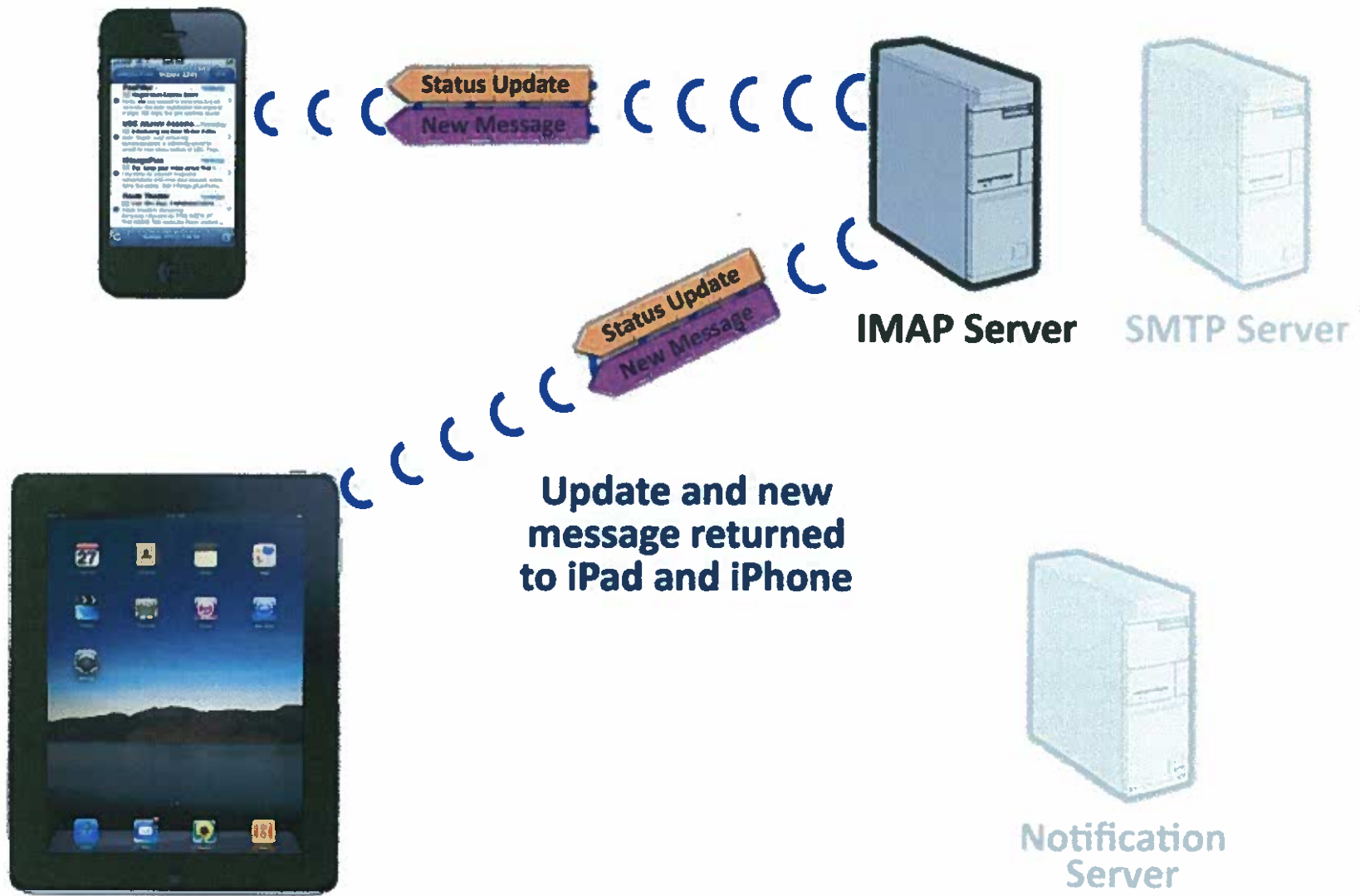
'119 Patent





# The Accused Products: No Automatic Update of Status Information

'119 Patent



# The Accused Products: No Automatic Update of Status Information

'119 Patent



IMAP Server



SMTP Server

**Message Deleted**



Notification Server

# Accused System Also Updates Message Status in Response to User Actions

'119 Patent

Message Deleted



IMAP Server



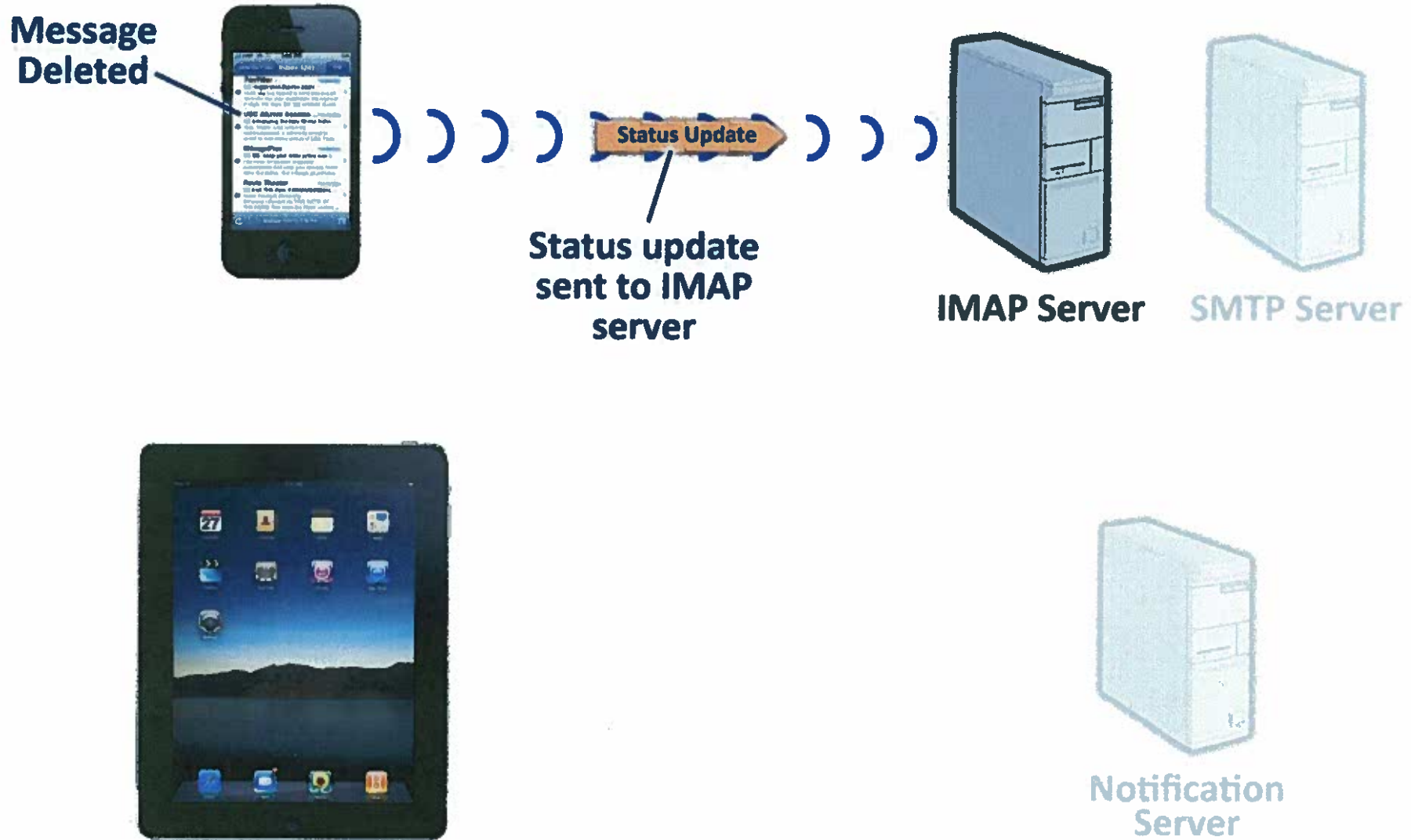
SMTP Server



Notification Server

# Accused System Also Updates Message Status in Response to User Actions

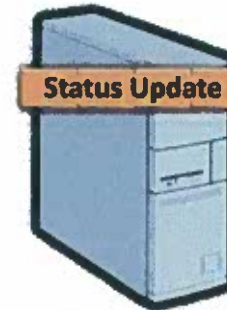
'119 Patent





# Accused System Also Updates Message Status in Response to User Actions

'119 Patent



**IMAP Server**



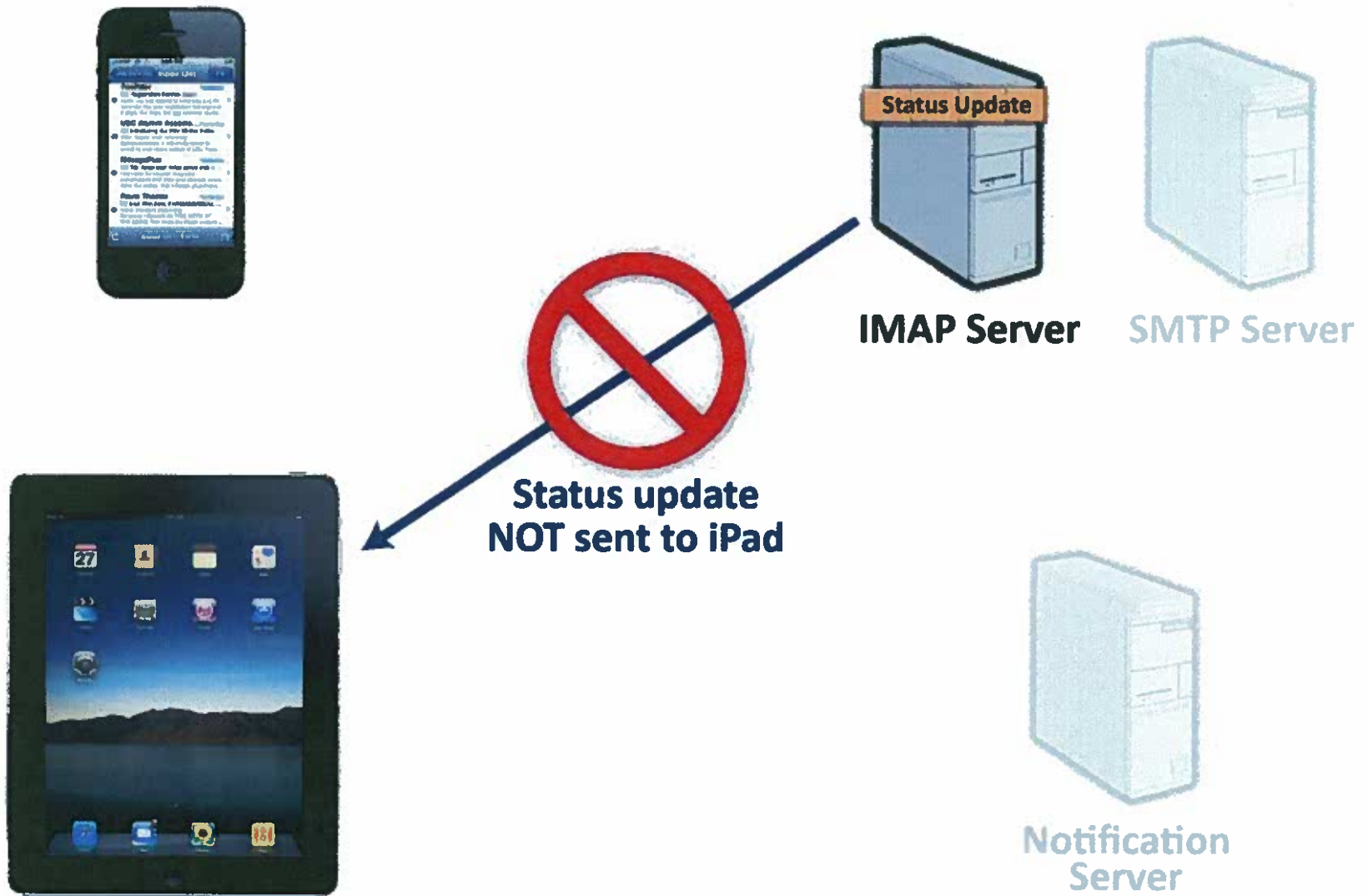
**SMTP Server**



**Notification Server**

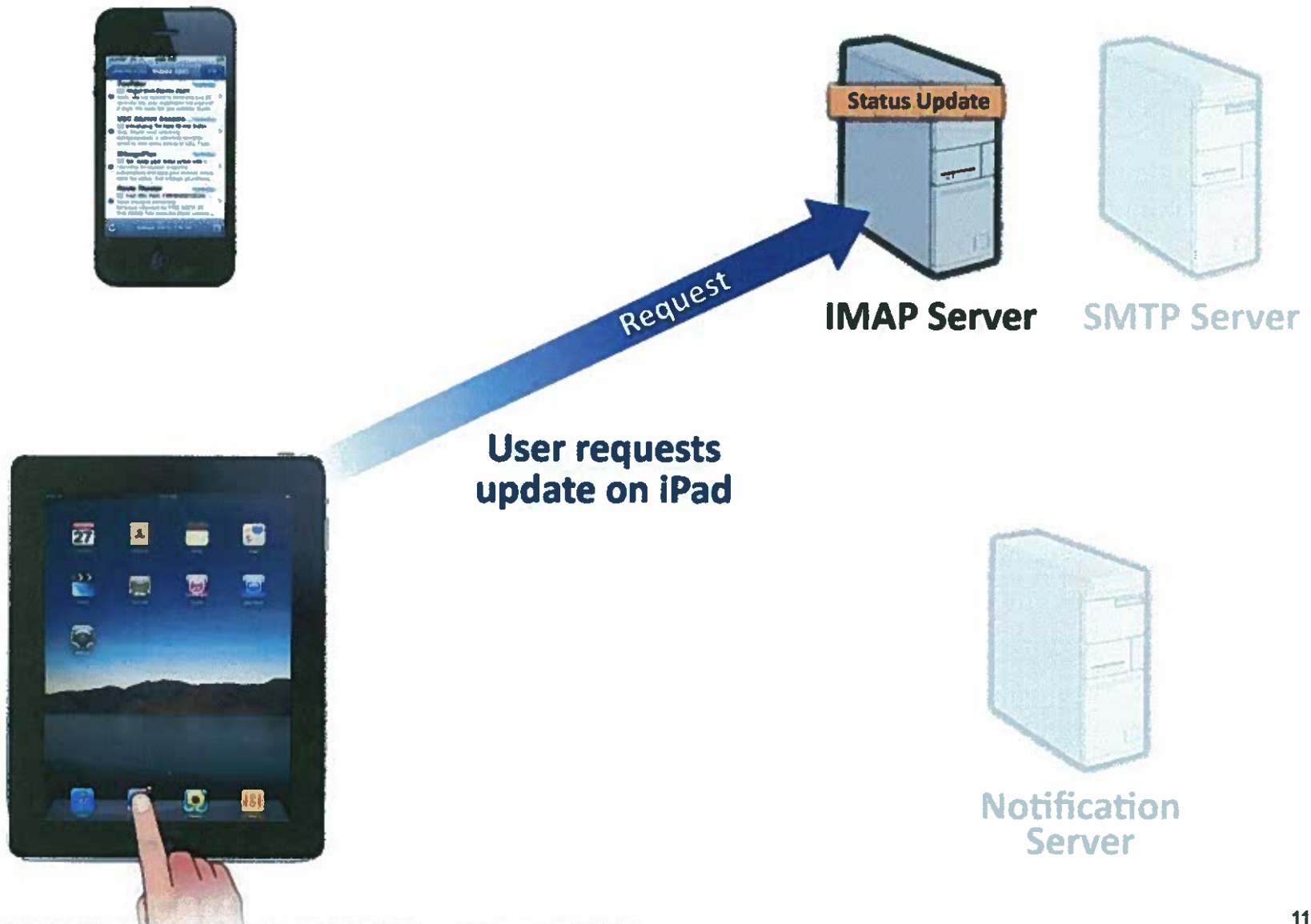
# Accused System Also Updates Message Status in Response to User Actions

'119 Patent



# Accused System Also Updates Message Status in Response to User Actions

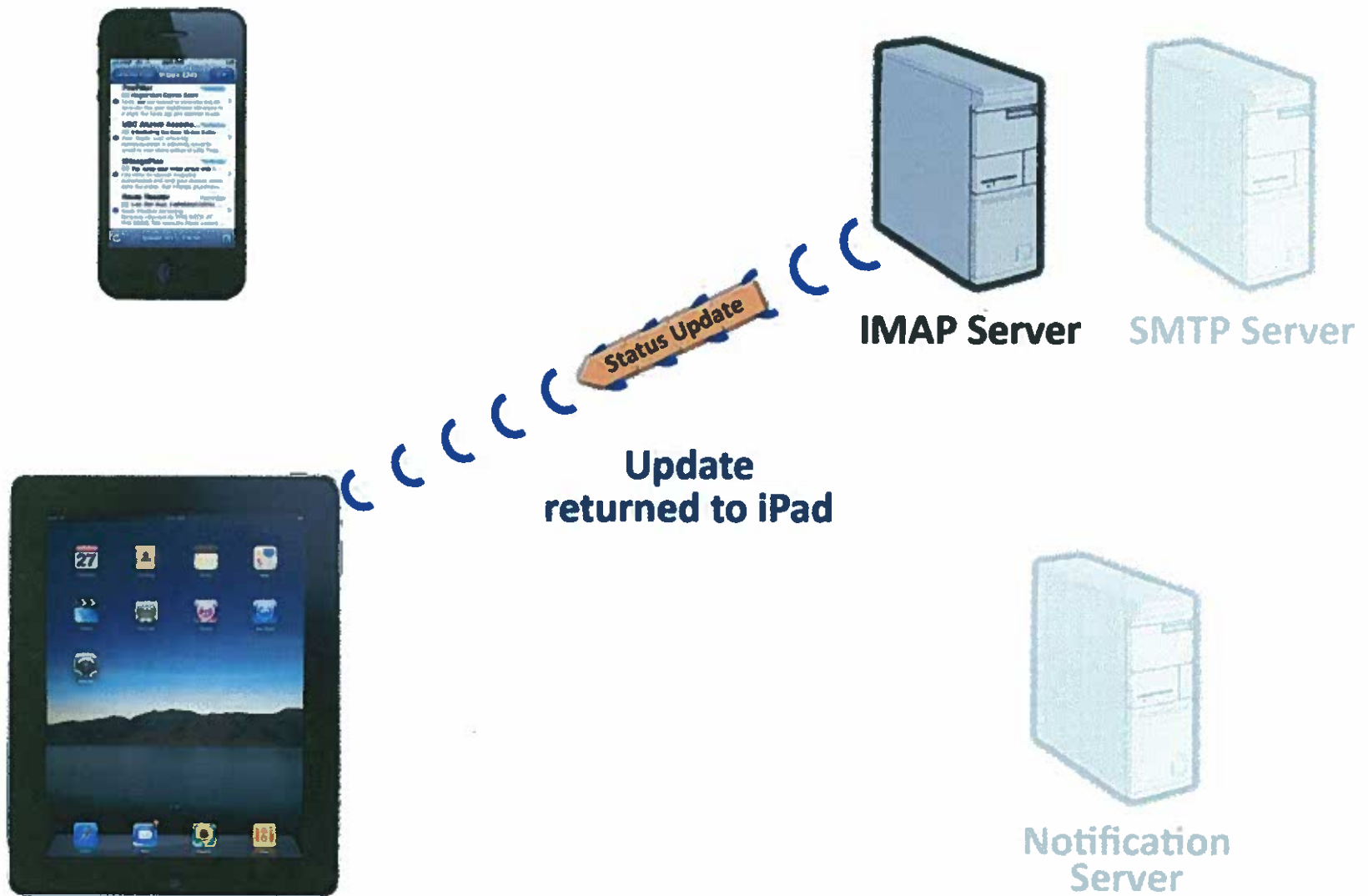
'119 Patent





# Accused System Also Updates Message Status in Response to User Actions

'119 Patent





# Accused System Also Updates Message Status in Response to User Actions

'119 Patent



IMAP Server



SMTP Server

**Message Deleted**



Notification Server

*Motorola Mobility, Inc. v. Apple, Inc.,*

Case No. 1:10-CV-23580-UU (S.D. Fla.)

**'006 and '531 Patents –  
Technology Tutorial**



# '531 Patent

'006 + '531 Patents

## United States Patent [19]

Eggleston et al.

**United States Patent** [19]  
Eggleston et al.

Patent Number: **6,101,531**  
Date of Patent: **Aug. 8, 2000**

**[54] SYSTEM FOR COMMUNICATING USER-SELECTED CRITERIA FILTER PREPARED AT WIRELESS CLIENT TO COMMUNICATION SERVER FOR FILTERING DATA TRANSFERRED FROM HOST TO SAID WIRELESS CLIENT**

Inventors: Gene Eggleston, Cary; Mitch Hansen, Fox River Grove, both of Ill.

Assignor: Motorola, Inc., Schaumburg, Ill.

Appl. No. 09/066,000  
Filed: Apr. 15, 1998

**Abstract**  
In a main embodiment, message filtering is applied via user-selectable filter parameters (e.g., reject, pass, or granularly filter) on data being transferred between a communication unit (200) and communication server (220). For downloading, e.g., email from a host post office (240), a communication server controller (225) preferably either forwards the filter parameters in a query request or message to the post office to apply and return qualified mail (400-410), or the communication server receives all requested mail and applies the filters locally (410-430), only acknowledging as processed that mail which passes the filters. For uploading, e.g., email from a client, a client controller applies an optional message filter (450) or so to retain all filter rejected email, while transmitting email passing the filters (450). Thus, only desired data transfers (i.e., those meeting user defined filters) are communicated over the expensive-bearing network between the remote user and communication server.

**References Cited**  
U.S. PATENT DOCUMENTS  
5,276,802 1/1994 Masegur  
5,283,659 2/1994 Owen et al.  
5,367,000 2/1994 Rhodes et al.

**Flowchart Description:**  
The flowchart illustrates the process of filtering data. It starts with a 'Host' (240) sending data to a 'Communication Server' (220). The server controller (225) receives the data and applies filters (450) to it. The filtered data is then sent to the 'Wireless Client' (200). The client controller (205) receives the data and applies filters (450) to it. The filtered data is then sent to the 'Communication Server' (220). The server controller (225) receives the data and applies filters (450) to it. The filtered data is then sent to the 'Host' (240).

**[54] SYSTEM FOR COMMUNICATING USER-SELECTED CRITERIA FILTER PREPARED AT WIRELESS CLIENT TO COMMUNICATION SERVER FOR FILTERING DATA TRANSFERRED FROM HOST TO SAID WIRELESS CLIENT**

**[75] Inventors: Gene Eggleston, Cary; Mitch Hansen, Fox River Grove, both of Ill.**

- **Issued: Aug. 8, 2000**
- **Priority Date: Dec. 19, 1995**
- **Asserted Claims: 1, 2, and 11**
- **Accused Products: MobileMe, Apple iPhone 3G, Apple iPhone 3GS, Apple iPhone 4, Apple iPad WiFi, Apple iPad WiFi + 3G, Apple iPad 2 WiFi, Apple iPad 2 WiFi + 3G, Apple iPod Touch, Apple MacBook, Apple MacBook Pro, Apple MacBook Air, Apple iMac, Apple Mac Mini, and Apple Mac Pro**
- **Identified Products: None**

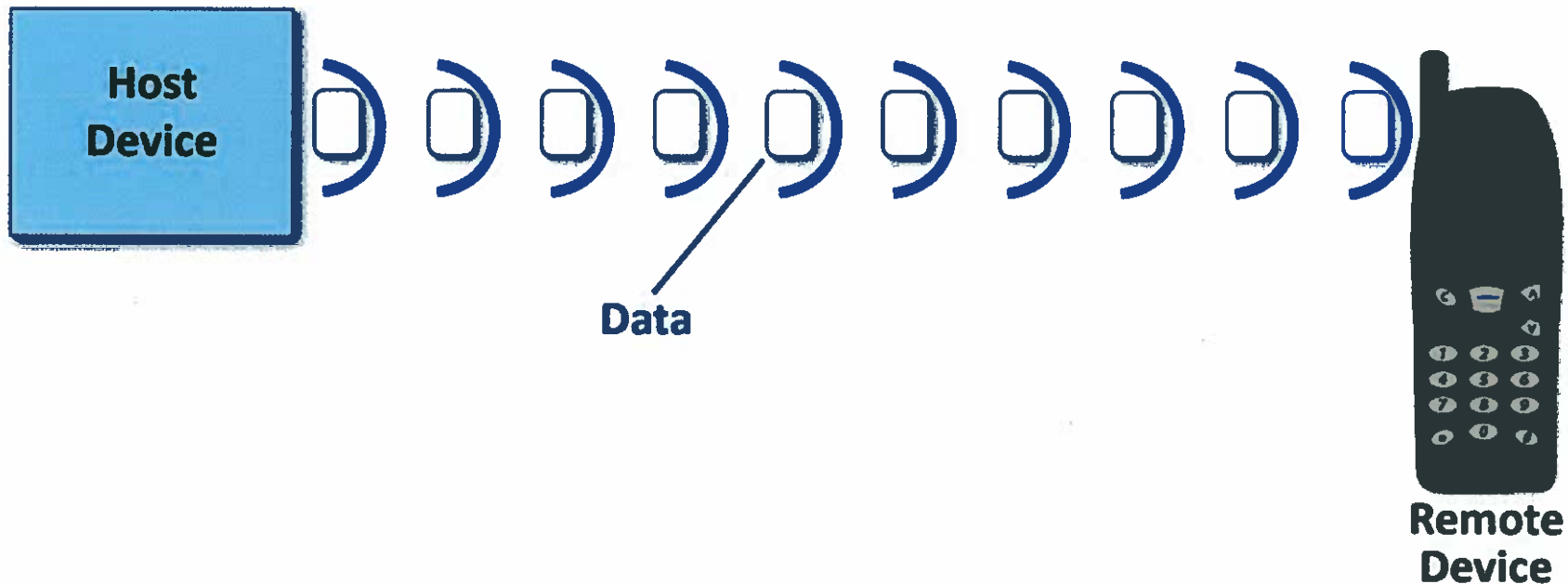
'531 Patent



# The '006 and '531 Patents

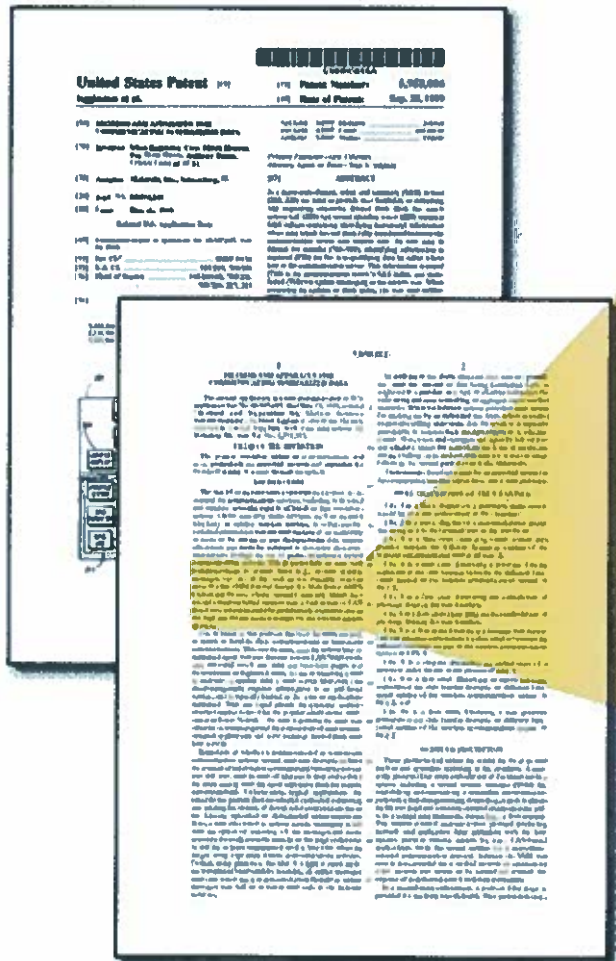
'006 + '531 Patents

- The '006 and '531 patents are related.
- Their specifications and figures are nearly identical, but their claims are different.
- Both patents involve the transmission of data from a host device to a remote device.



# The Problem Addressed: Sending Data Over Wireless Connections Was Expensive in 1995

'006 + '531 Patents



“This is particularly the case with communications to remote users (e.g., persons sending messages via one of the well-known available wireless networks like GSM (Global System for Mobiles) or AMPS (Advanced Mobile Phone System) cellular), where protracted circuit-switched sessions into a mail server or LAN (local area network) could be prohibitively expensive due to the high per-minute session charges by the wireless service provider.”

'006 Patent, col. 1:25-33

# The Problem Addressed: Sending Data Over Wireless Connections Was Expensive in 1995

'006 + '531 Patents



“Unfortunately, typical applications like email do not provide for user-selected methods for choosing and limiting the volume of downloaded communications, or for filtering uploaded or downloaded communications. Thus, a user who wants to receive remote messaging is left with an option of receiving all his messages (or some summary thereof), even the ones he or she might otherwise be willing to leave unprocessed until a later time when no longer using expensive remote communications services.”

'006 Patent, col. 1:54-62

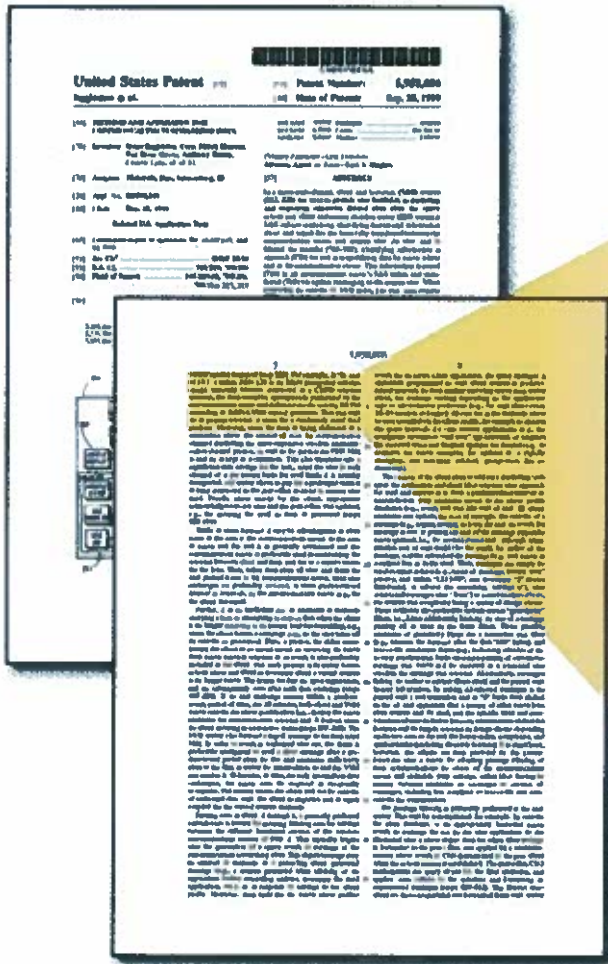






# The State of the Art in 1995

'006 + '531 Patents



“For example, in the case of FIG. 1 where PDN 130 is an ISDN (integrated services digital network) network connected to a CDPD wireless network, the mail would be appropriately packetized by the communications server and delivered via the serving BS 120 according to ISDN/CDPD system protocols. This can take up to several minutes or more for a moderately sized mail package.”

'006 Patent, col. 7:1-8

# The State of the Art in 1995

'006 + '531 Patents

- Around mid-1996, wireless networks that could download at speeds from **14.4 to 28.8 Kb/s** were being introduced. (See *e.g.*, *The Oregonian*, May 14, 1996)
  - ▷ At those speeds, downloading a 2.2 MB PDF would take between **1.3 and 2.6 minutes**.
- Today, wireless networks have performed at average speeds of **551 Kb/s (3G)** and **4.1 Mb/s (4G)** in real world tests. (See *e.g.*, *ComputerWorld*, Dec. 15, 2010)
  - ▷ At those speeds, downloading a 2.2 MB PDF would take between **0.5 and 4.1 seconds**.



# The Patents' Solutions

'006 + '531 Patents

- The '006 and '531 patents identify a two-part method to limit the cost of transmitting data over expensive connections:

- 1 Use an intermediary device  
and
- 2 Only send desired data

# 1 Use an Intermediary Device

'006 + '531 Patents

- Both patents use a three-device architecture for their communications systems.
- Instead of having the mobile device maintain an expensive, continuous connection with the host device, the communication server maintains a cheaper connection.

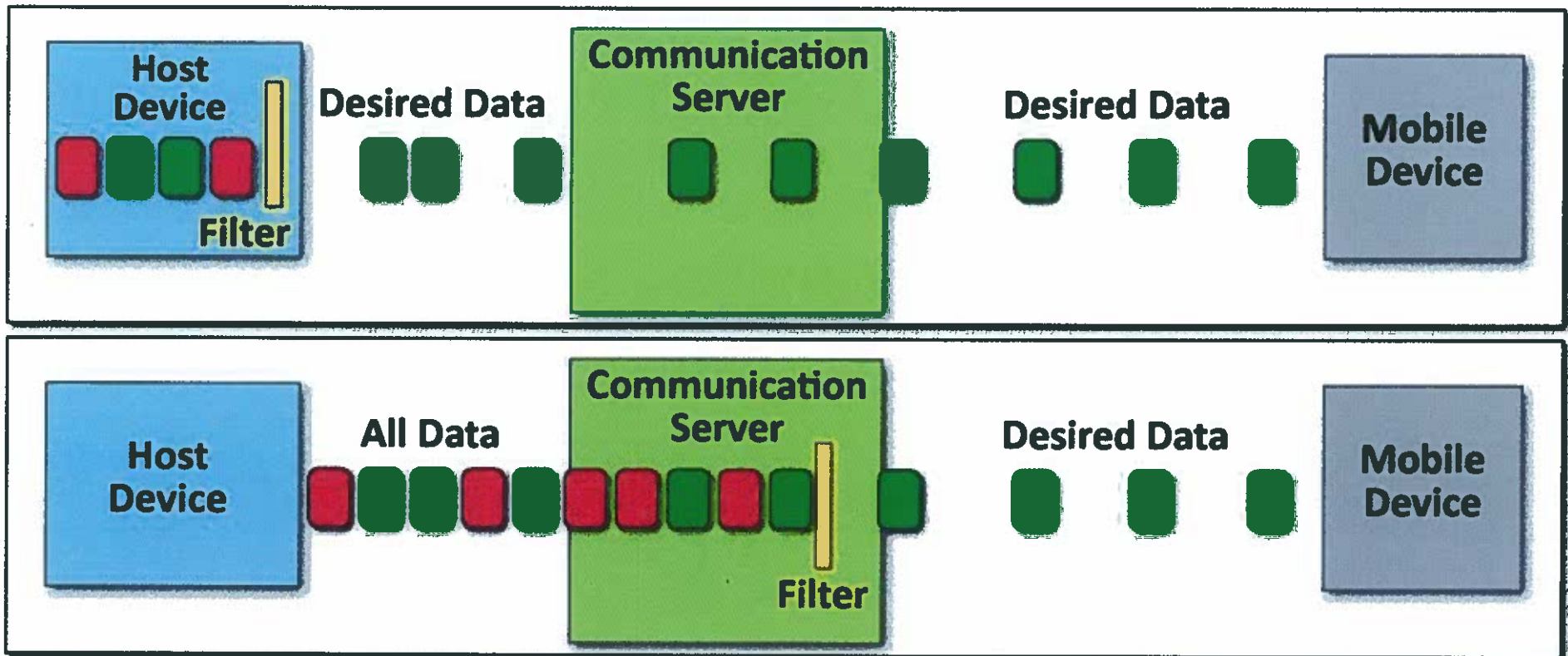




## 2 Only Send Desired Data

'006 + '531 Patents

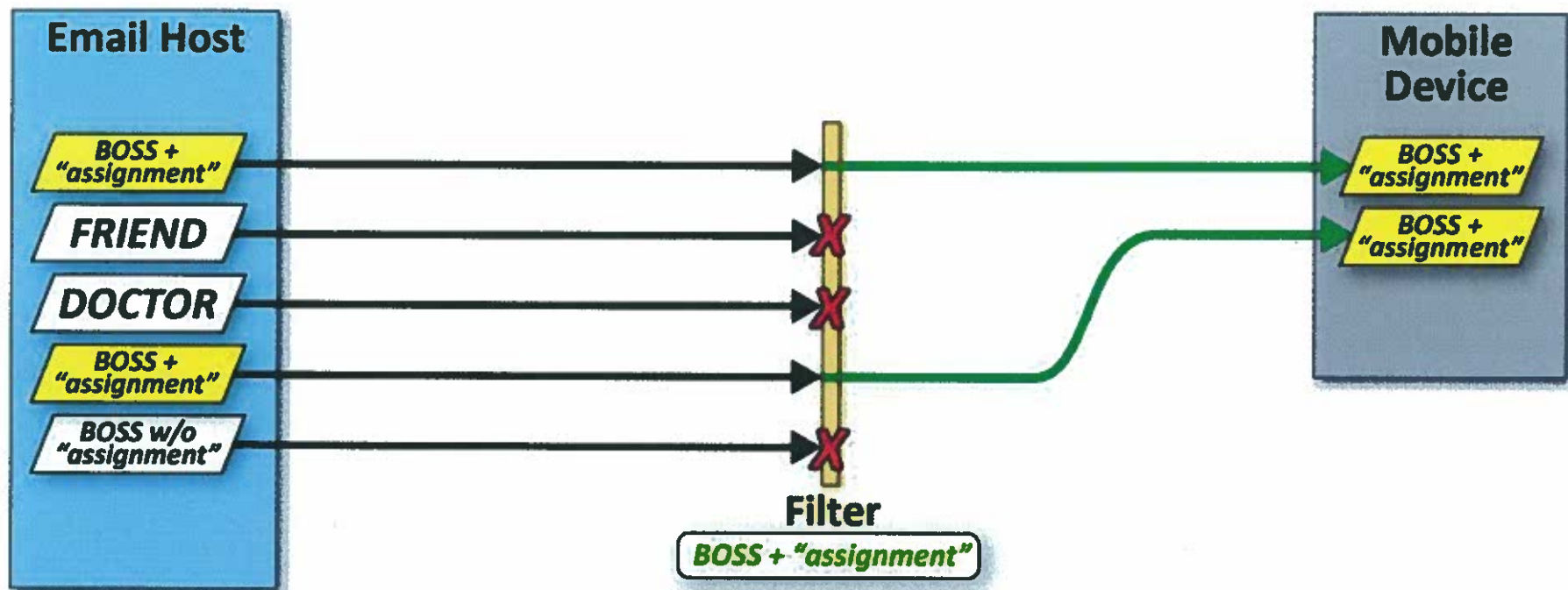
- Limiting the transmission to desired data decreases the length and cost of the transmission.
- The user specifies what data is desired through user-defined filters.
- These filters can be applied at the host device or the communication server.



## 2 Only Send Desired Data

'006 + '531 Patents

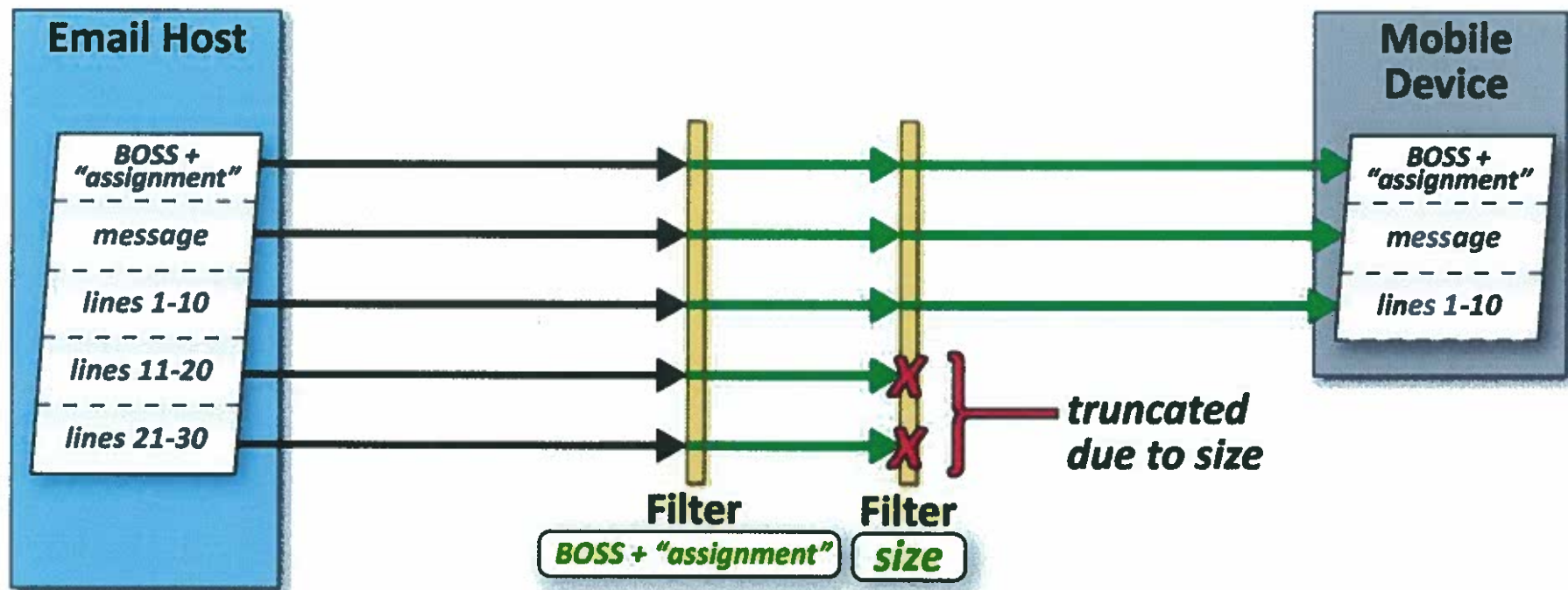
- At a given time, a user may want to receive emails only from her boss, and only those that contain the word “assignment.”
- She can set up a filter:
  - ▷ send emails from boss containing the word “assignment”
  - ▷ hold all other emails



## 2 Only Send Desired Data

'006 + '531 Patents

- Data units can also be truncated if they pass all of the user-defined filters, but are larger than a specified size.

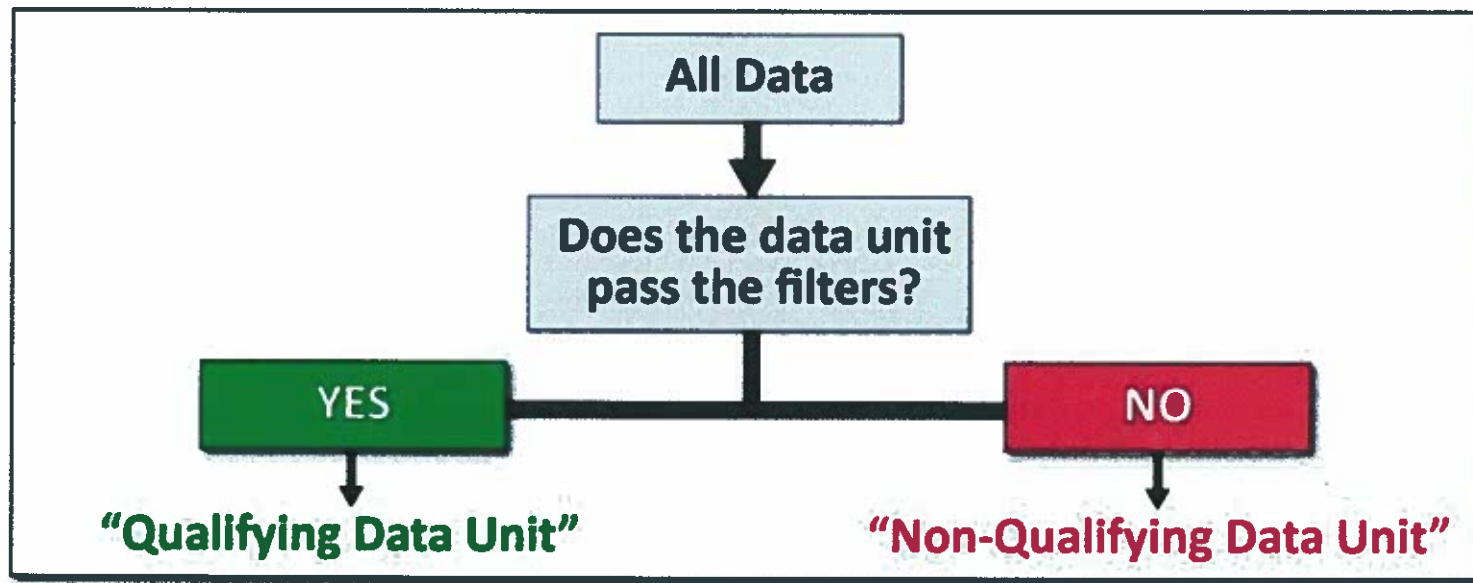




## 2 Only Send Desired Data

'006 + '531 Patents

- The patents refer to each piece of data as a “data unit.”
  - ▷ A data unit that passes the filters is a **“qualifying data unit.”**
  - ▷ A data unit that does not pass the filters is a **“non-qualifying data unit.”**





# Select and Summary Index

'006 + '531 Patents

- A disadvantage to filtering data is that the user may miss something important without knowing it.
- To give the user more flexibility, the mobile device receives an “identifying information” part of each data unit withheld from the user.

