

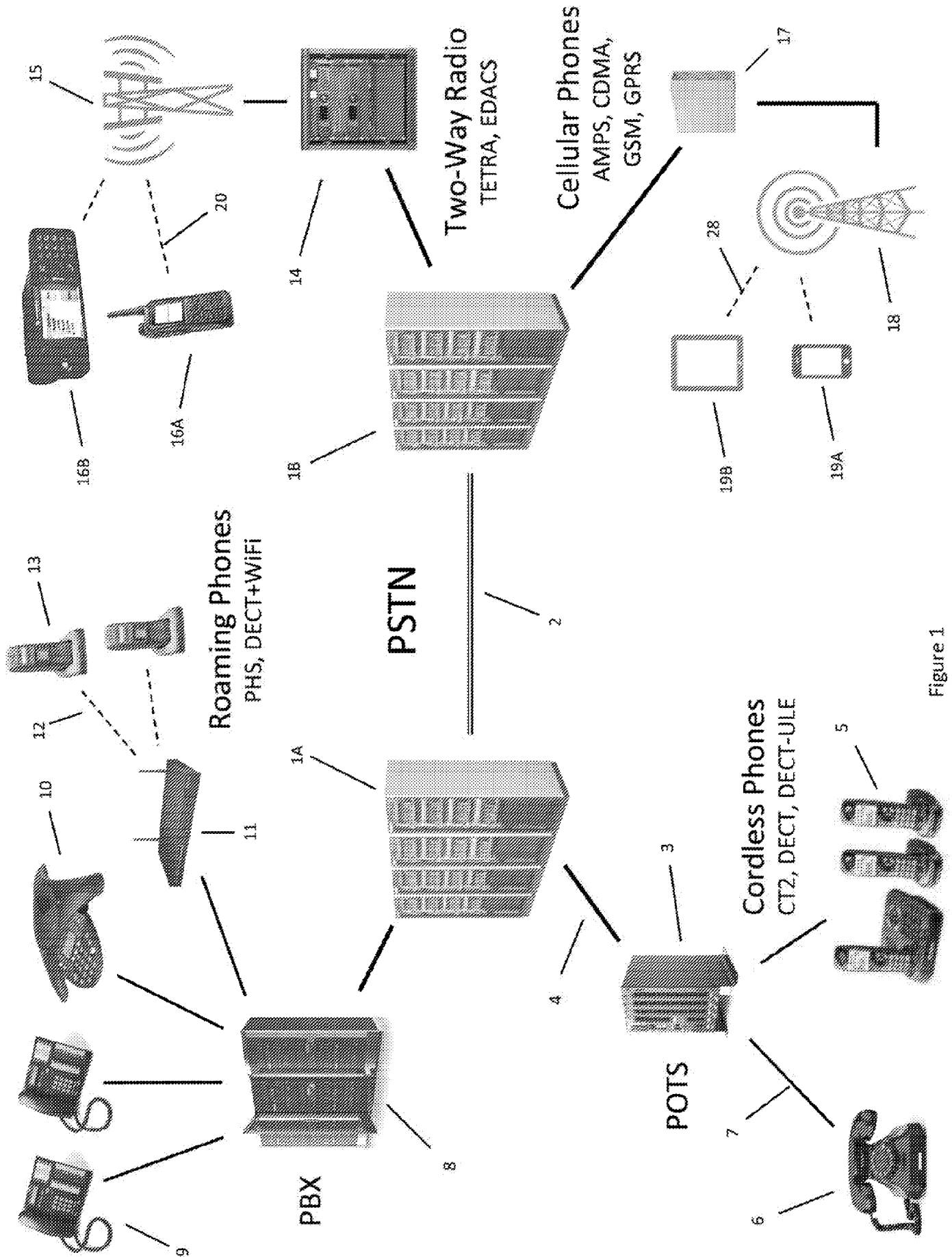


Figure 1

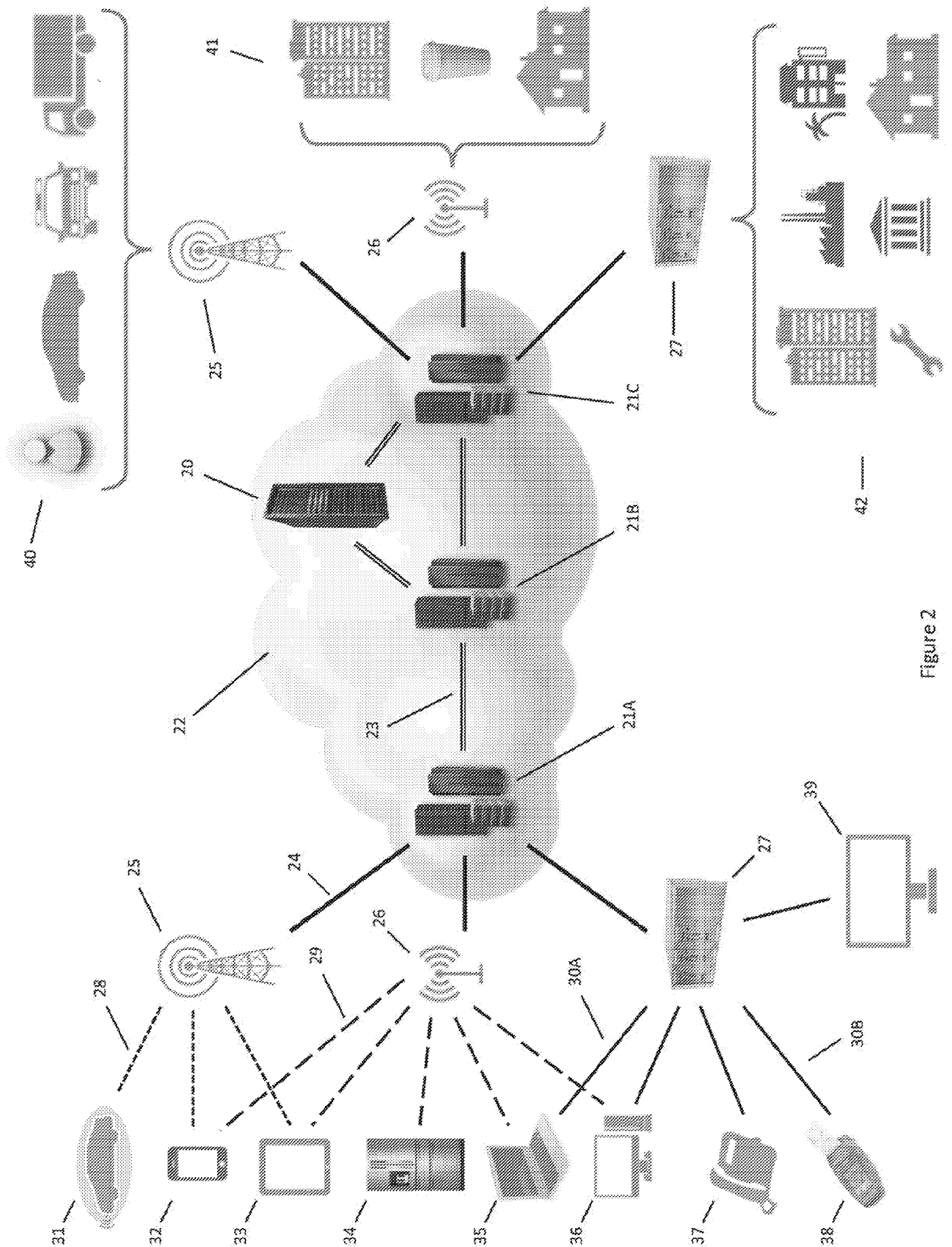
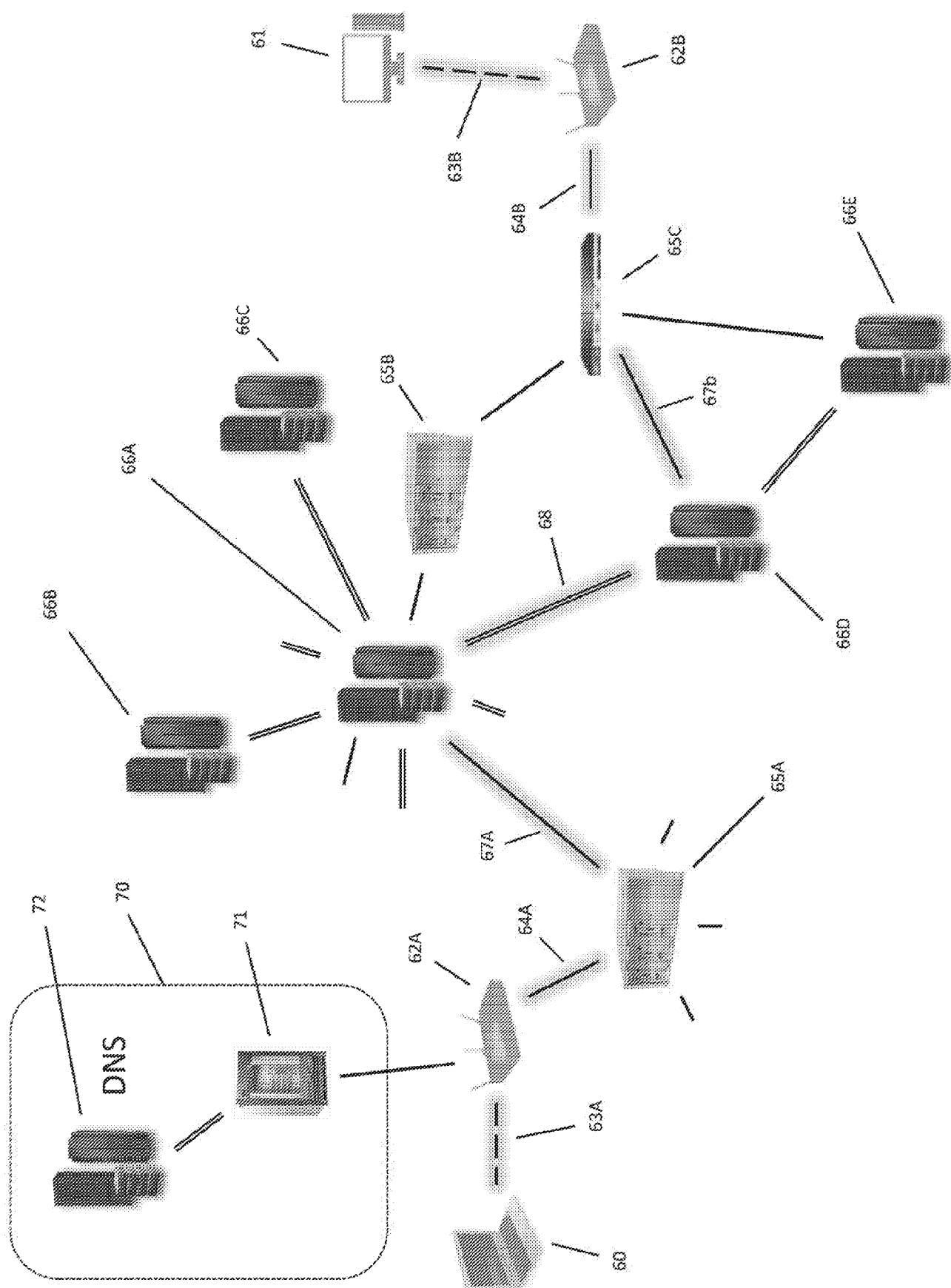
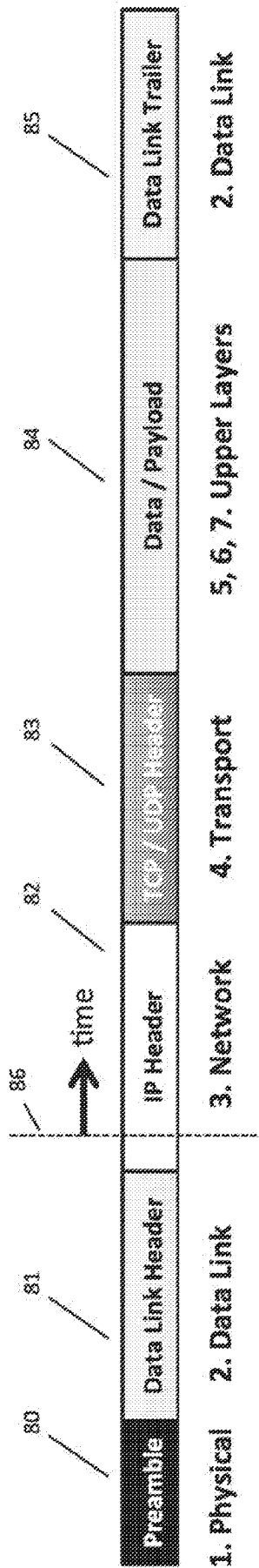


Figure 2



365



87

OSI Layer	Data Type	Current Examples
7. Application		Telnet, files (FTP, SFTP, FTAM, ZIP), email (SMTP, IMAP, POP3), web (DNS, HTTP, Safari, Firefox, Chrome, etc.), comms (SIP, IRC, NNTP, OTT), network mgmt (SNMP, DHCP, BGP, LDAP, CMIP), drivers (printer, scanner, camera), backup (NFS, online, custom)
6. Presentation	Data (Upper Layers, App Layers, Payload)	text (ASCII, EBCDIC, ZIP), graphics (PNG, JPG, GIF, BMP), sound & video (MP4, WMV, MOV, AVI, MIDI), documents (PDF, DOC, PPT, HTML, XML, MIME), streaming (RTP, RTSP, RTMP), encryption (TLS/SSL, SSH)
5. Session		SOCKS, RPC, authentication, full/half duplex, simplex
4. Transport	Segments, datagram	UDP, TCP, DCCP, VPN (GRE, PPTP, SSTM, SSH...), LCM
3. Network	Packet, datagram	IP, ICMP, IGMP
2. Data Link	Bit, frame, VLAN (802.1Q)	802.11, 802.3, ATM, PPP, HSUPA, LTE, DOCSIS, LLC
1. Physical (PHY)	Electrical, optical & RF signals (incl. bit streams)	WiFi, Ethernet, Serial, Parallel, Fiber, T1, 4G, Cable, Cu wire, RF Broadcast (FM, TV, DAB, DMB), Bluetooth, Bits

Figure 4

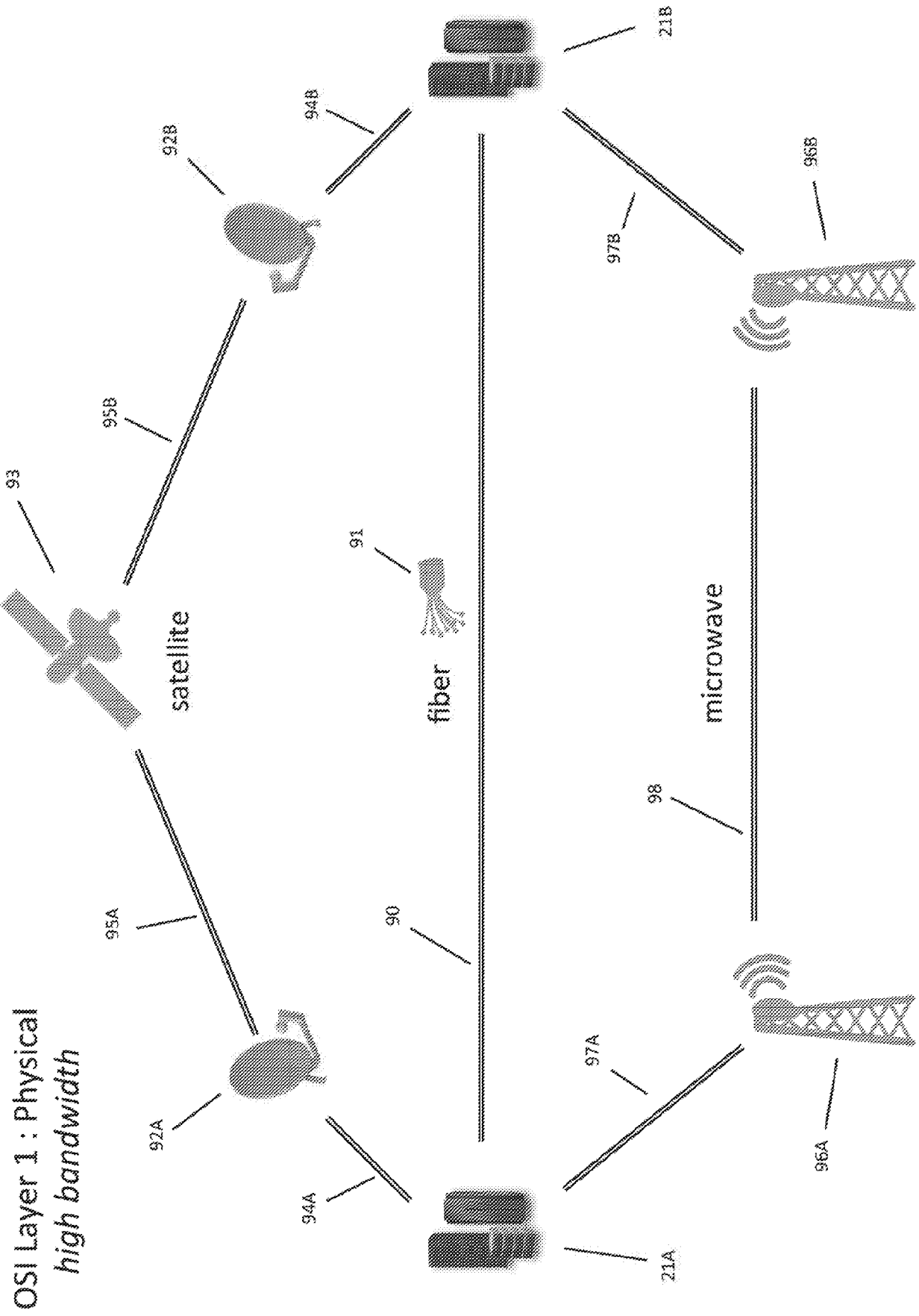


Figure 5A

6/271

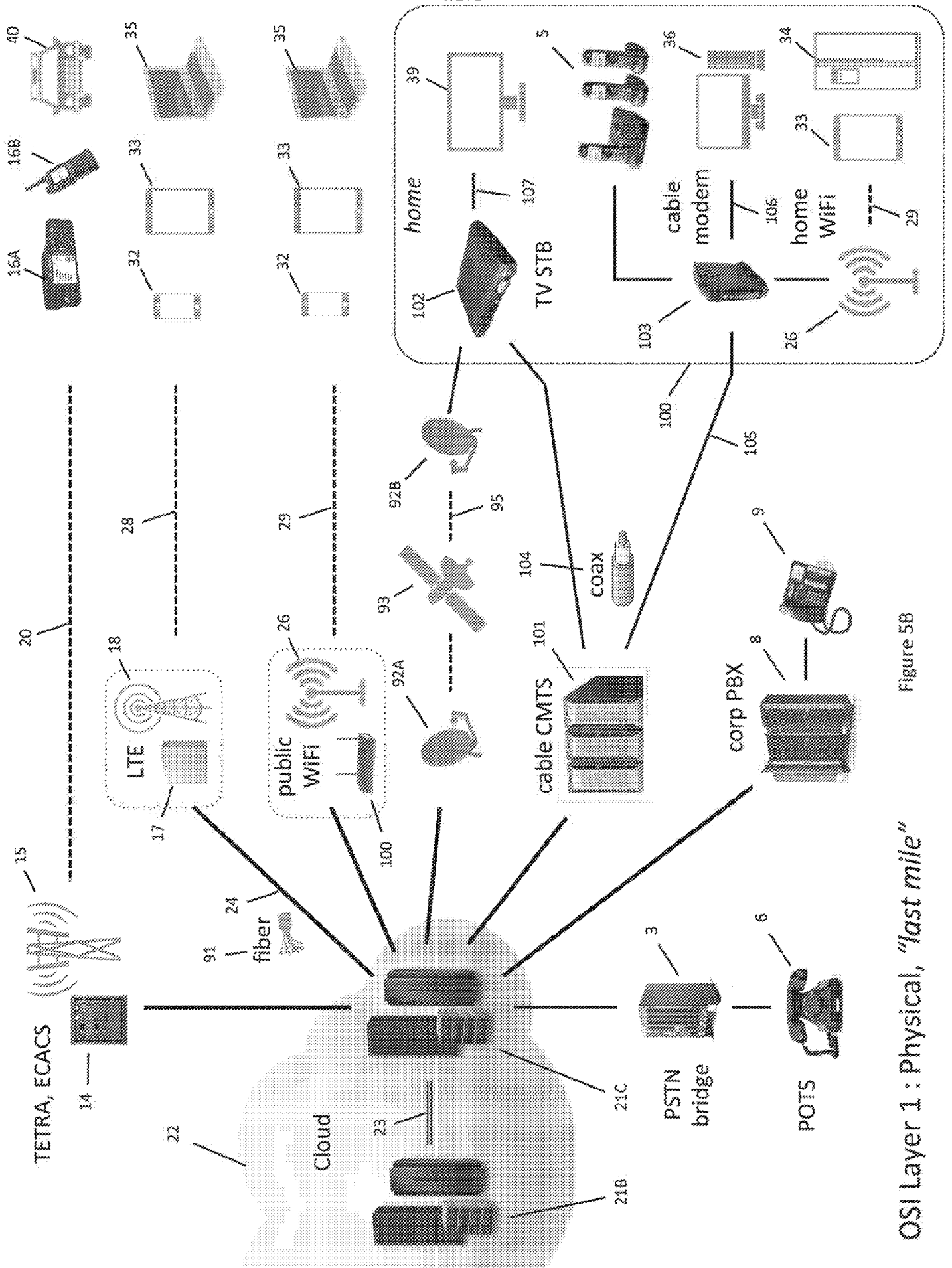


Figure 5B

OSI Layer 1: Physical, "last mile"

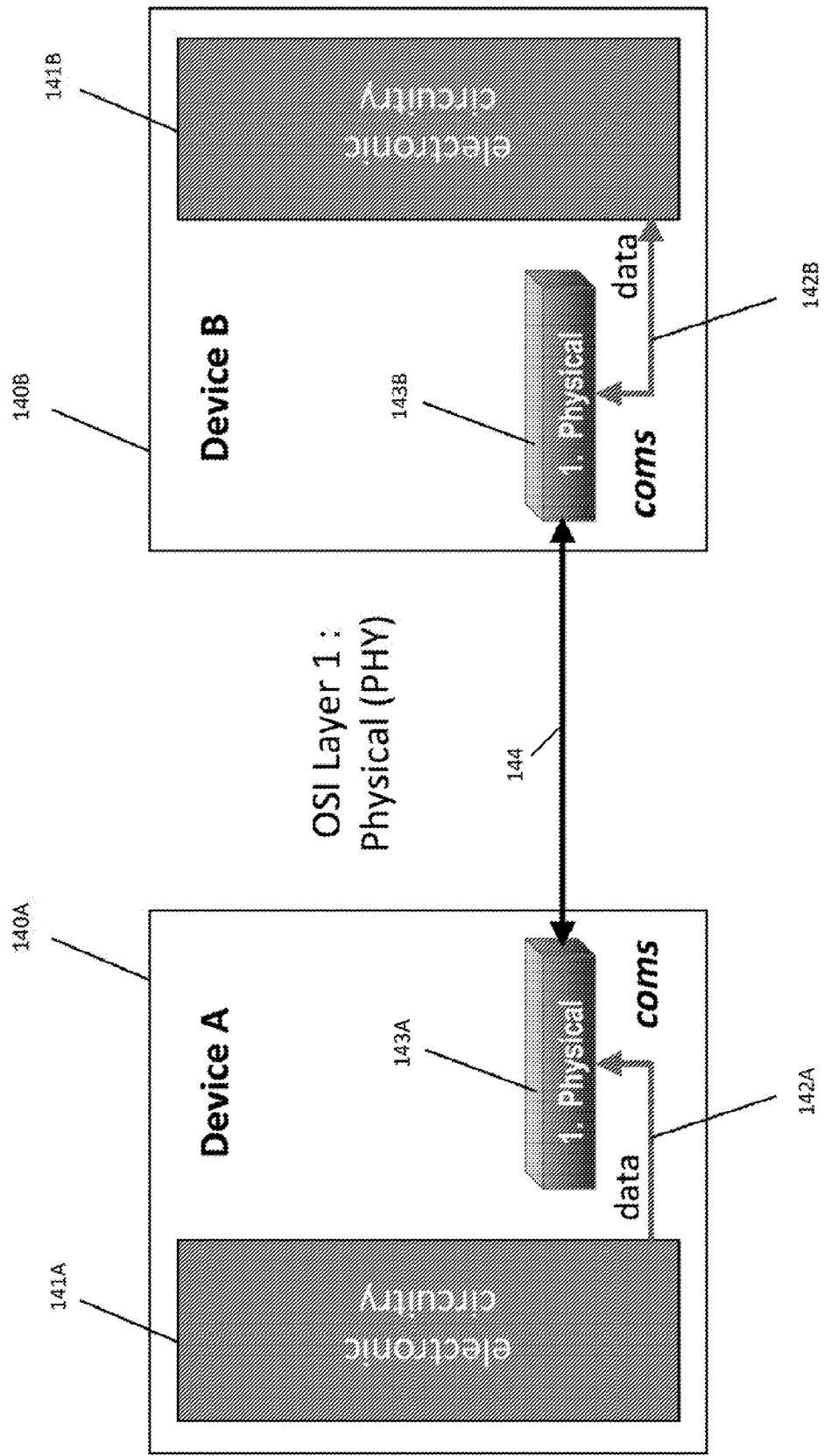


Figure 6A

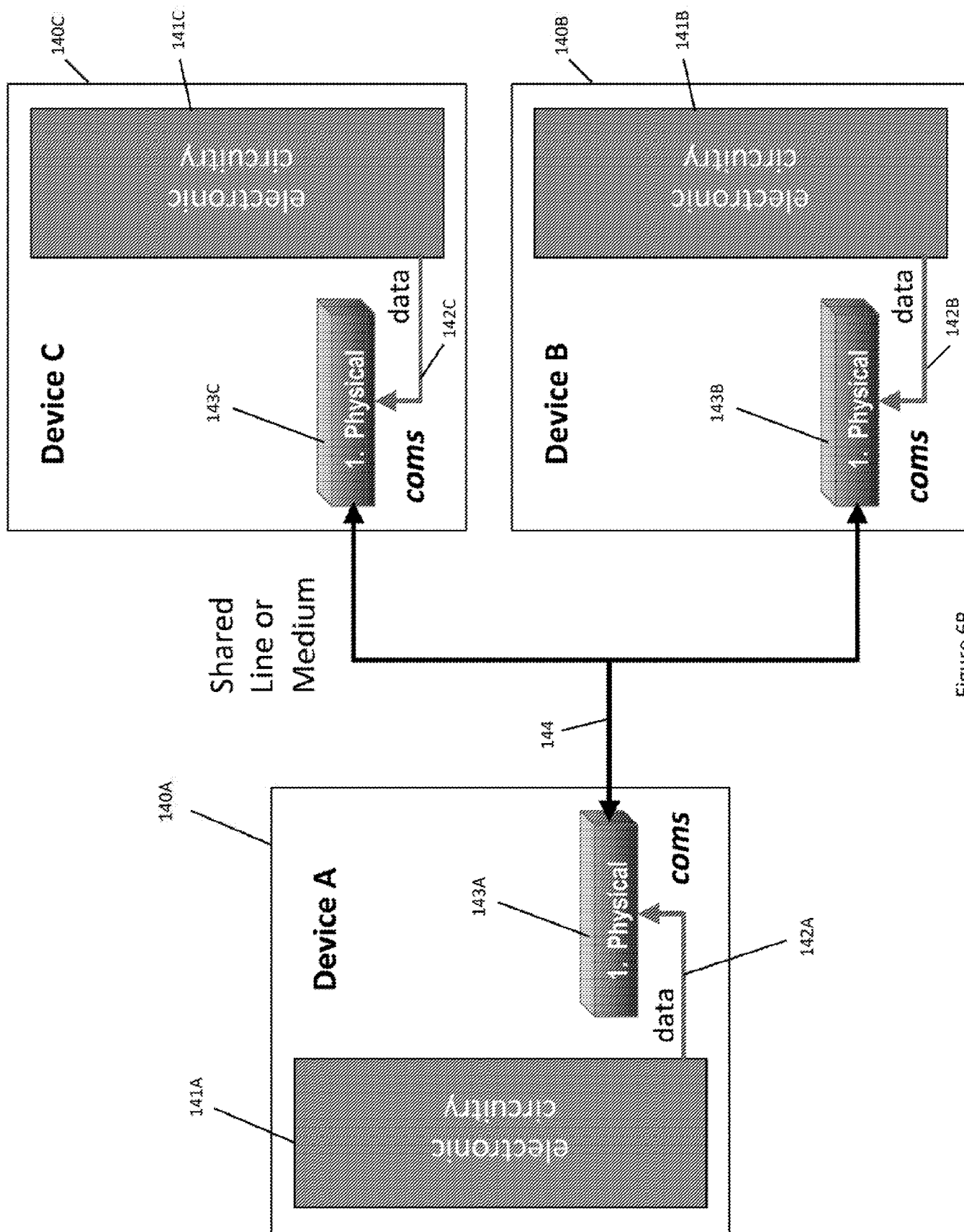


Figure 6B

OSI Layer 2 : Data Link (Bus Architecture)

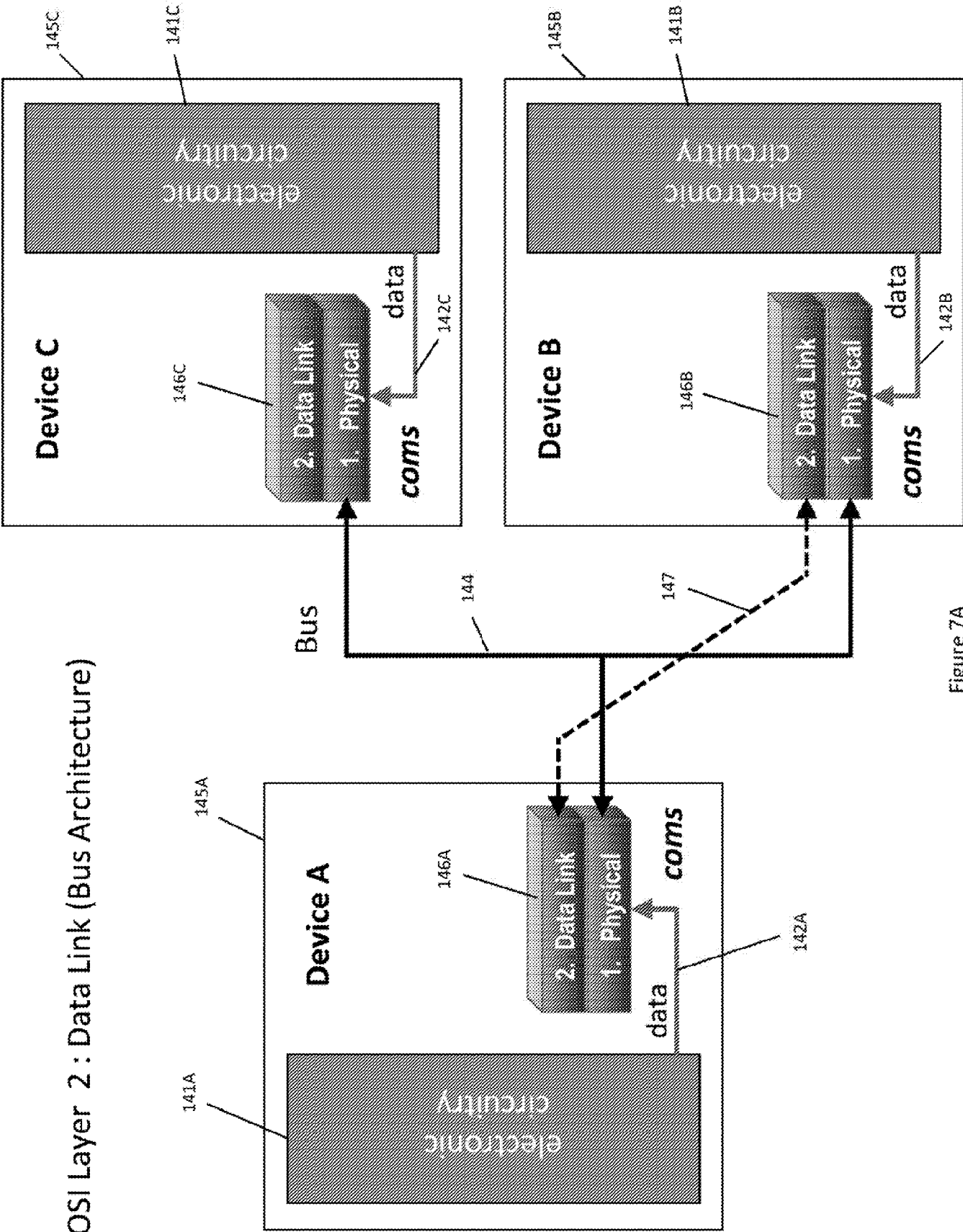


Figure 7A

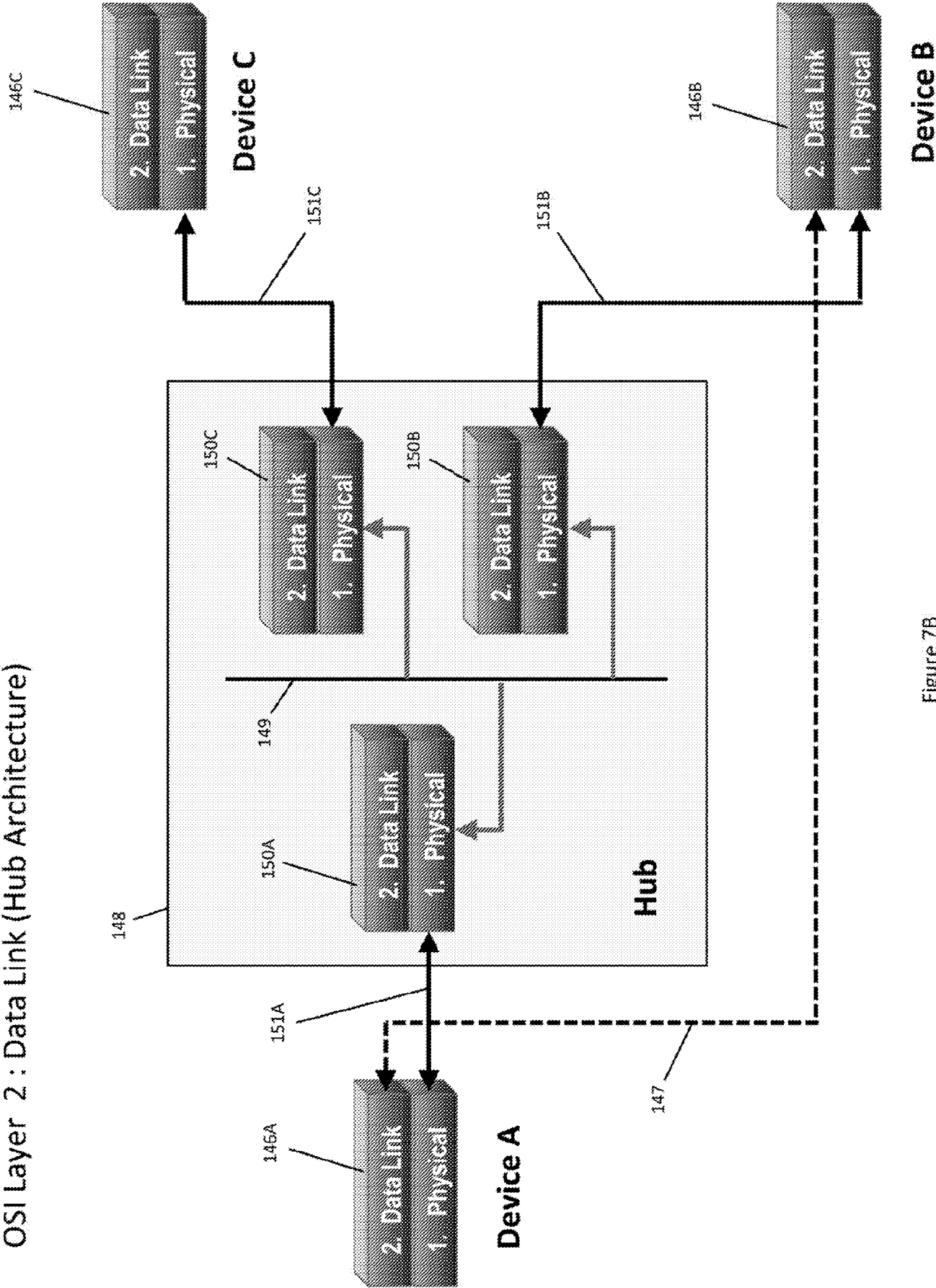


Figure 7B

OSI Layer 2 : Data Link (Daisy Chain Architecture)

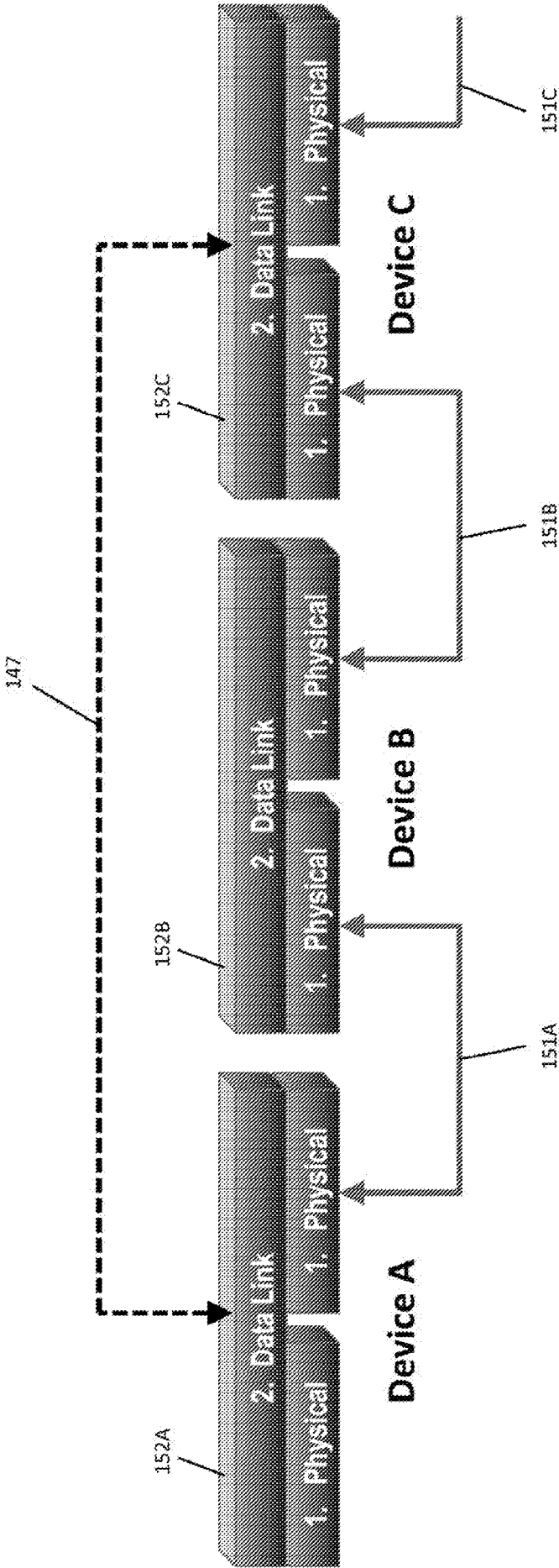


Figure 7C

OSI Layer 2 : Data Link (LAN Architecture)

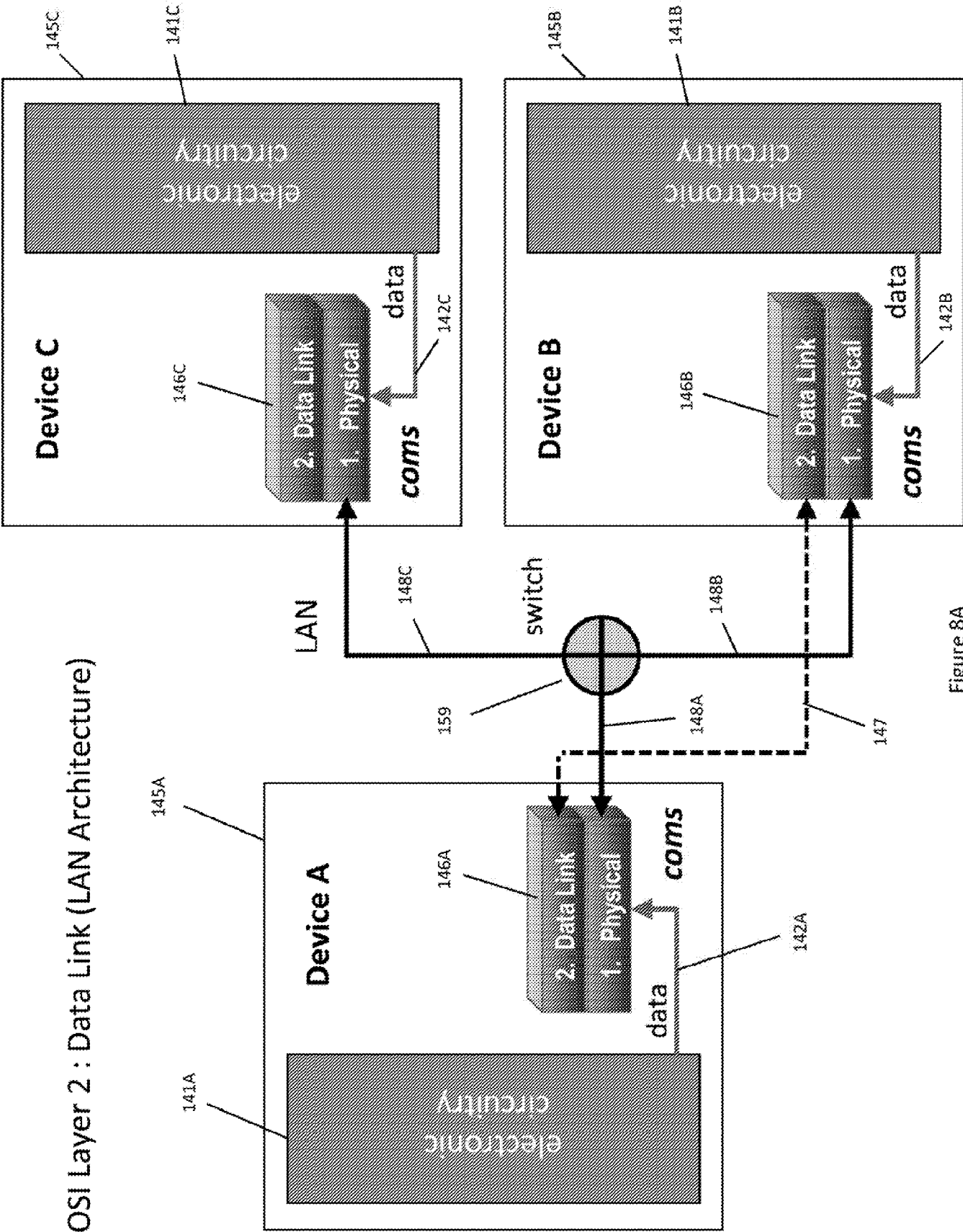


Figure 8A

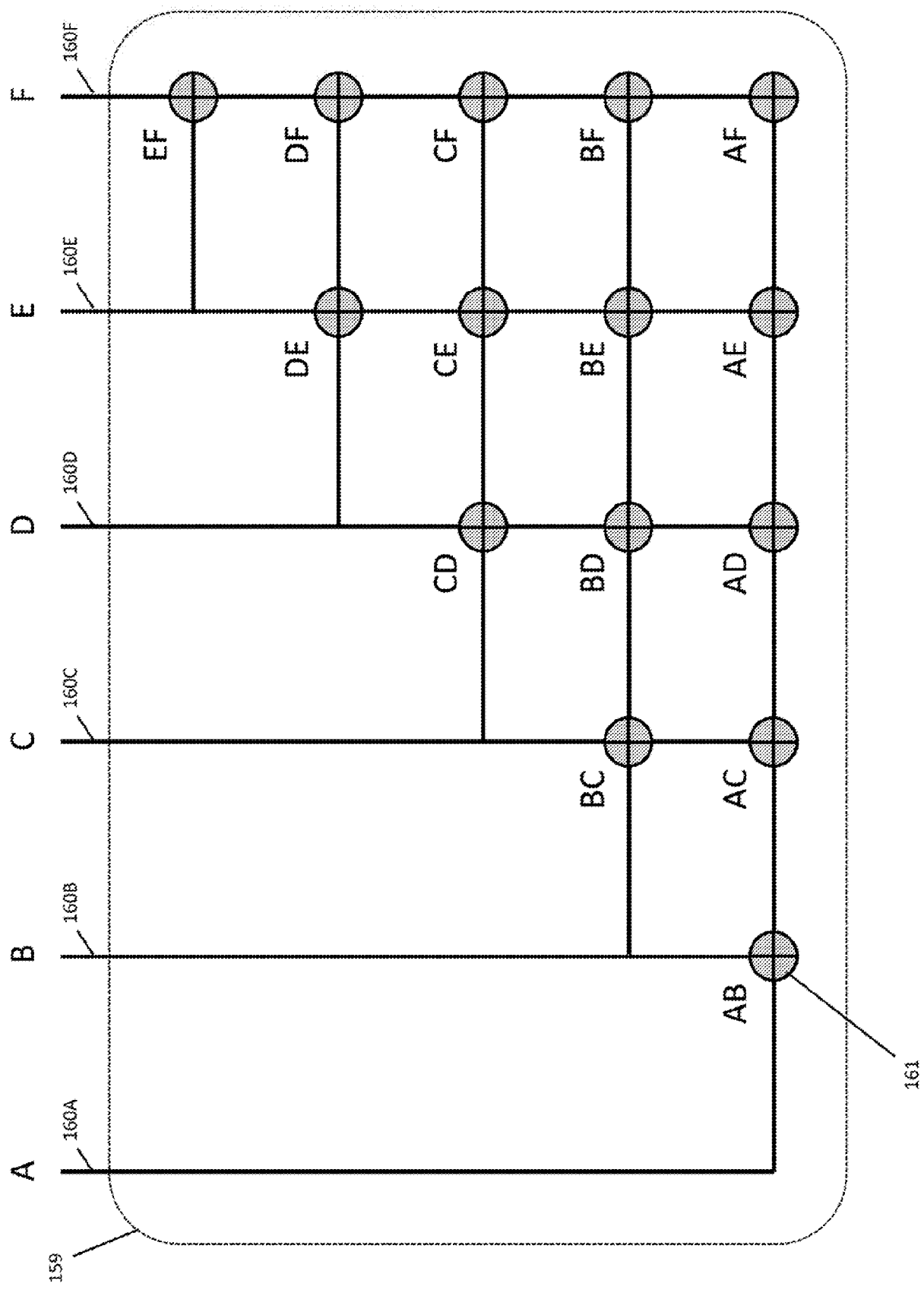
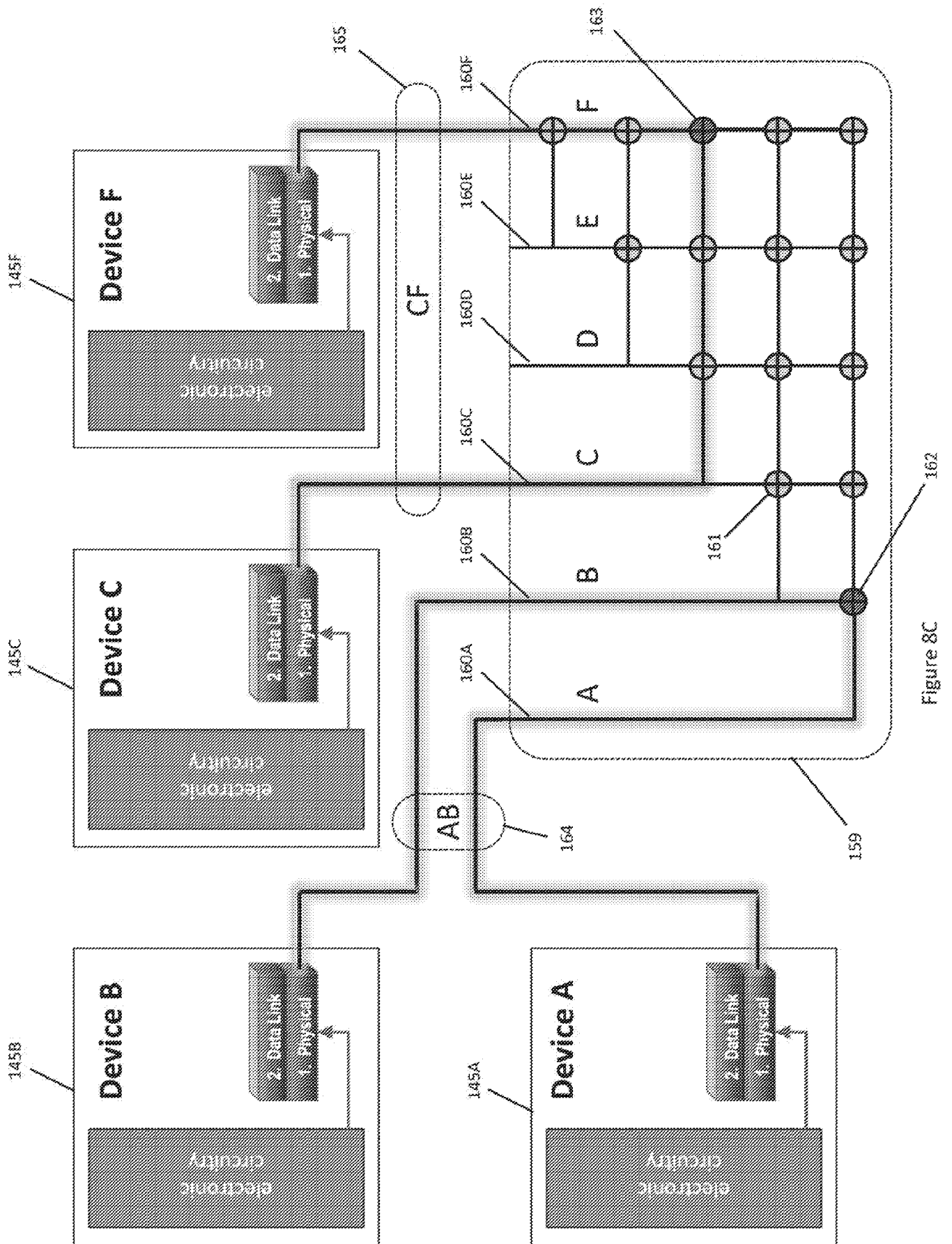
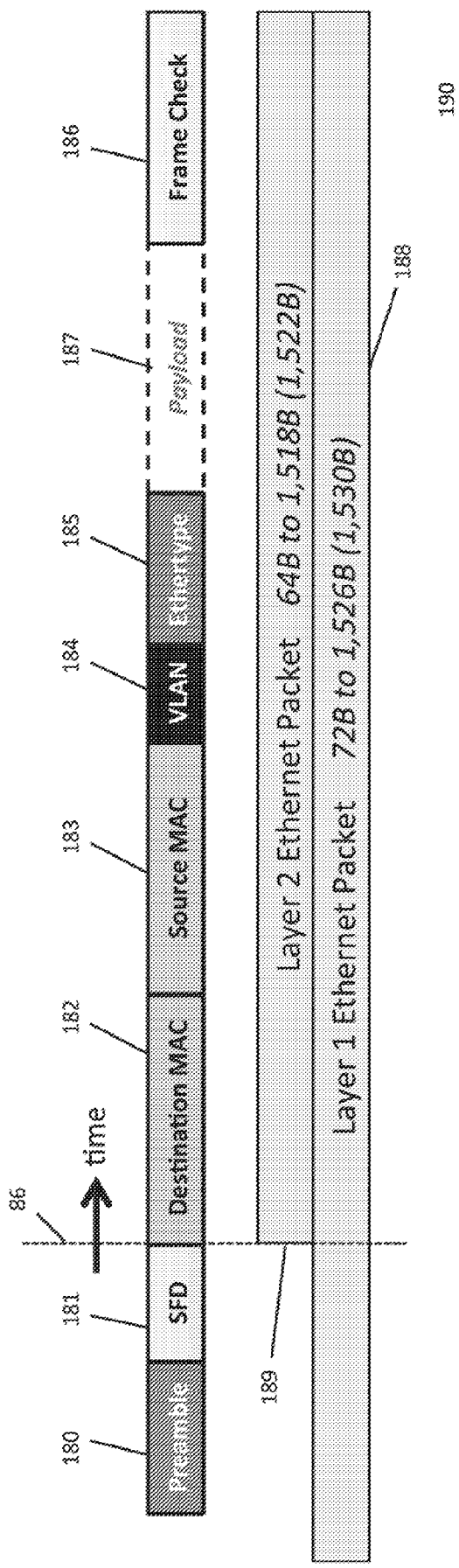


Figure 8B





OSI Layers 1 & 2 : Data Link for Ethernet Packets (IEEE 802.3)

Layer	Packet Field	Size	Function
1	Preamble	7B	Data frame header
1	SFD	1B	Synchronize hardware devices (start frame delimiter)
2	Destination MAC	6B	Media Access Control (MAC) destination address on LAN
2	Source MAC	6B	Media Access Control (MAC) source address on LAN
2	VLAN	(4B)	802.1Q tag (optional)
2	Ethertype	2B	Type of data link (Ethernet II) or length (IEEE 802.3)
2-7	Payload	42B – 1500B	Content of packet (including network, IP, app info & data)
2	Frame Check	4B	Checksum of entire packet (32-bit CRC data link trailer)

Figure 9

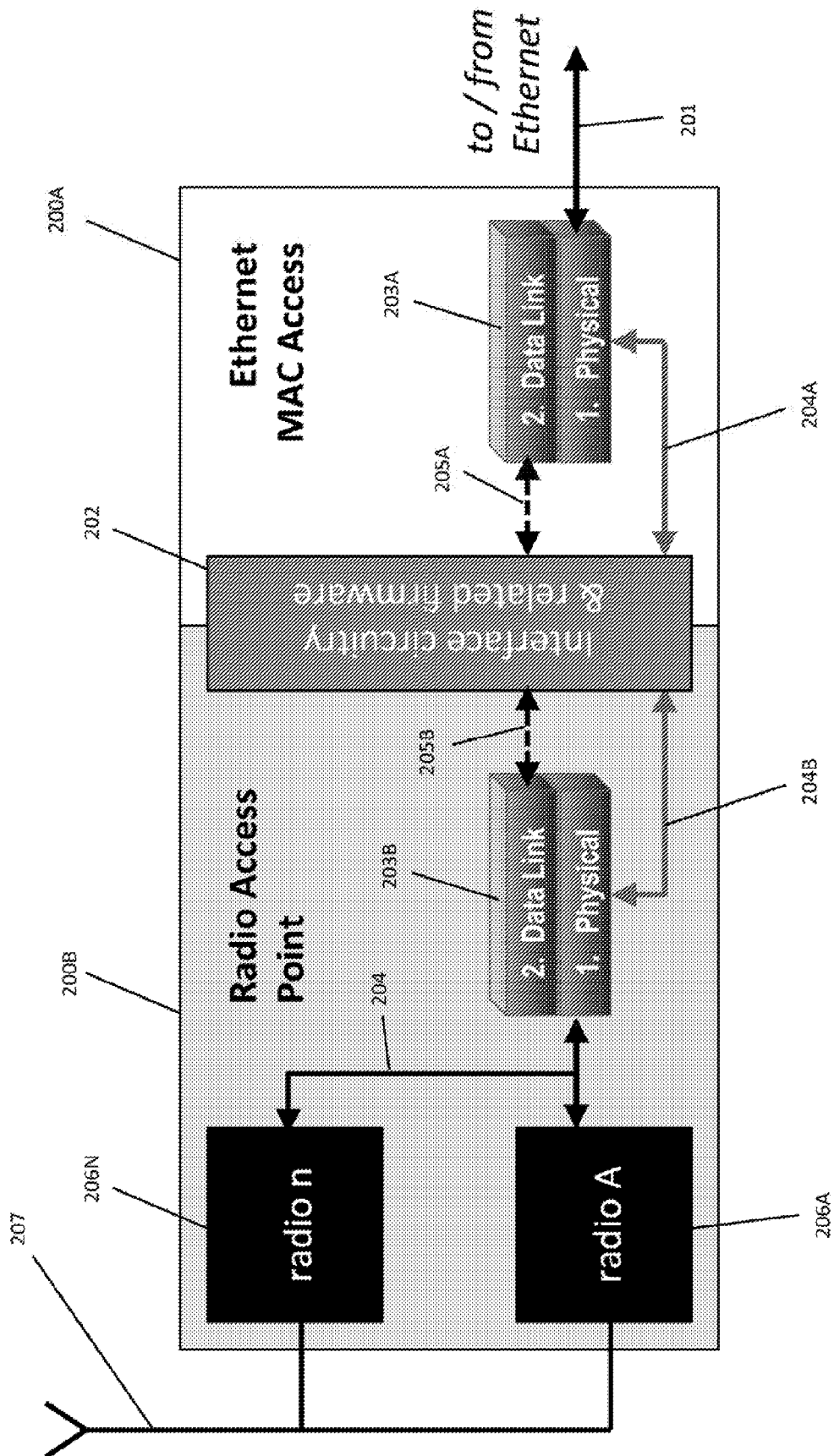
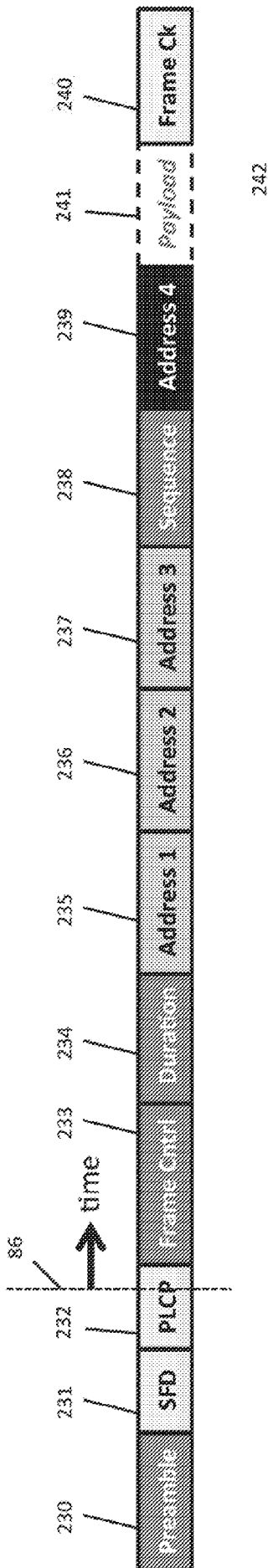


Figure 10



OSI Layers 1 & 2 : Data Link for WLAN Packets (WiFi, IEEE 802.11, etc.)

Layer	Packet Field	Size	Function
1	Preamble	10B	Data frame header
1	SFD	2B	Synchronize hardware devices (start frame delimiter)
1-2	PLCP	2B	Physical layer convergence procedure (length, rate, header error ck)
2	Frame Control	2B	Version Type (Management, Control, Data, Reserved)
2	Duration & ID	2B	NAV duration (except in power save mode, then Station ID)
2	Address 1	6B	BSS receiving station address (depends on To DS / From DS setting)
2	Address 2	6B	BSS transmitting station address (depends on To DS / From DS)
2	Address 3	6B	Conditional address (depends on To DS / From DS setting)
2	Sequence Cntrl	2B	Sequence & fragment number defining the packet frame
2	Address 4	6B	Source station address in WDS (wireless distribution system) mode
2-7	Payload	0 - 2312B	Content of packet (including network, IP, app info & data)
2	Frame Check	4B	Checksum of entire packet (32-bit CRC data link trailer)

Figure 11

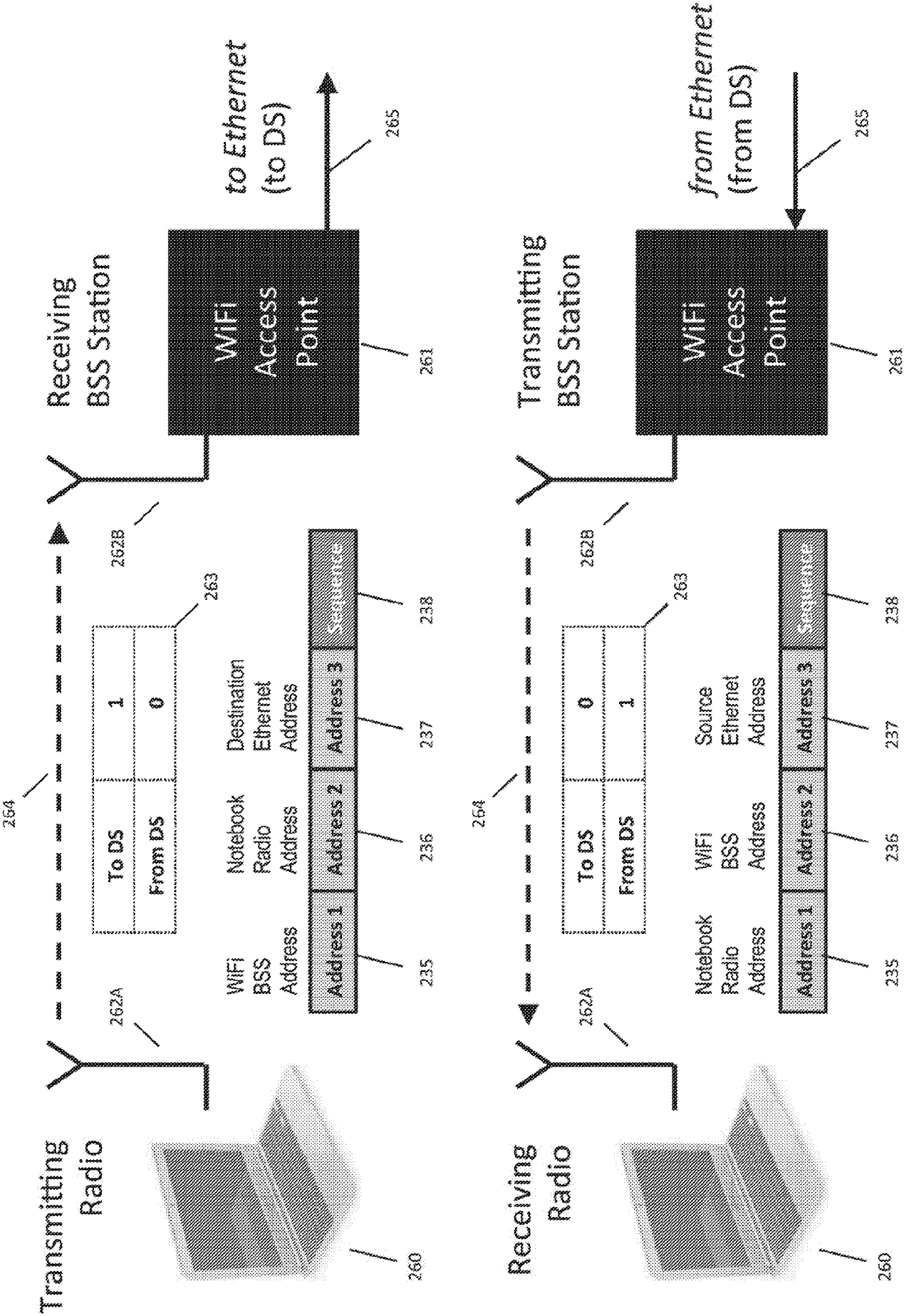


Figure 12A

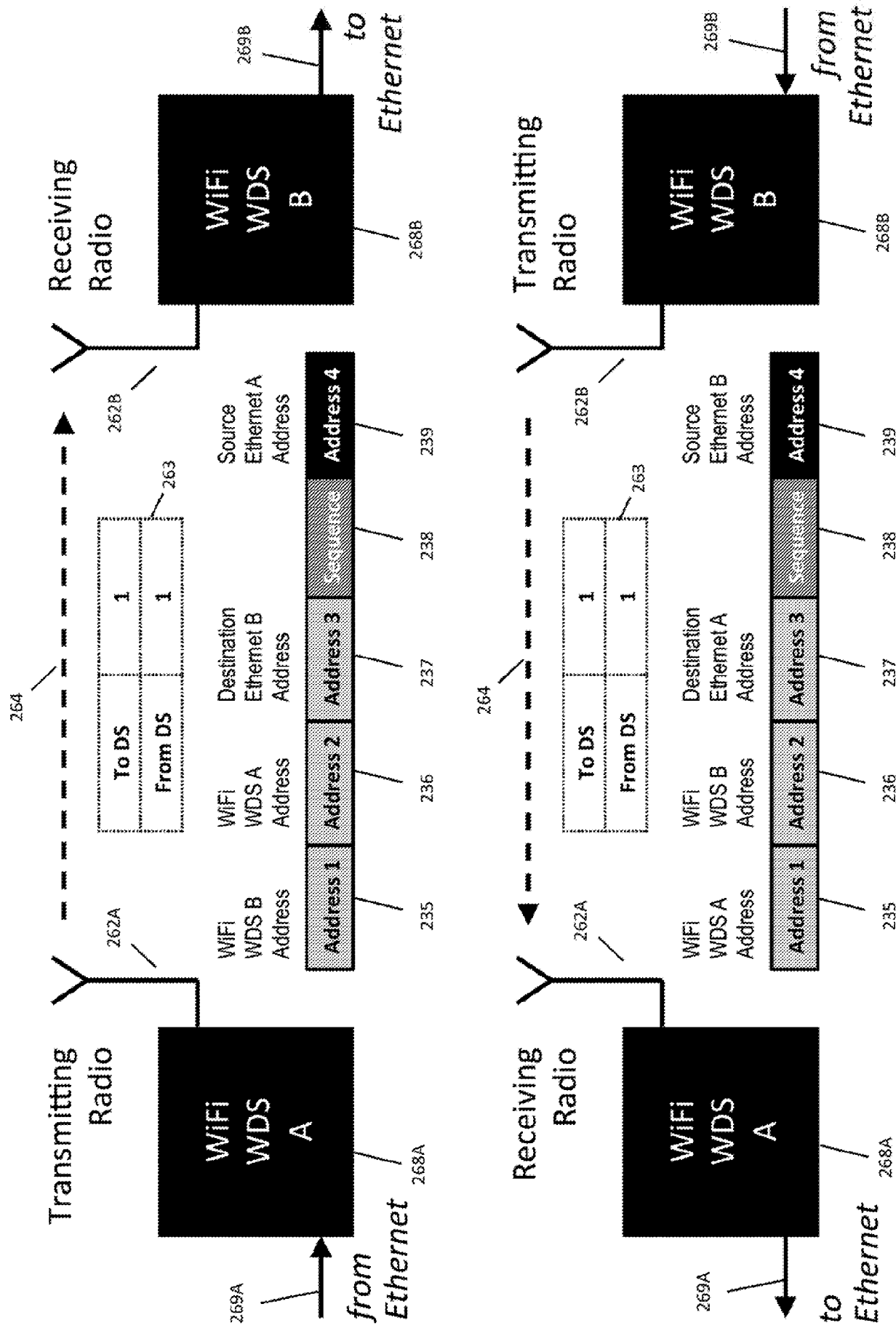


Figure 12B

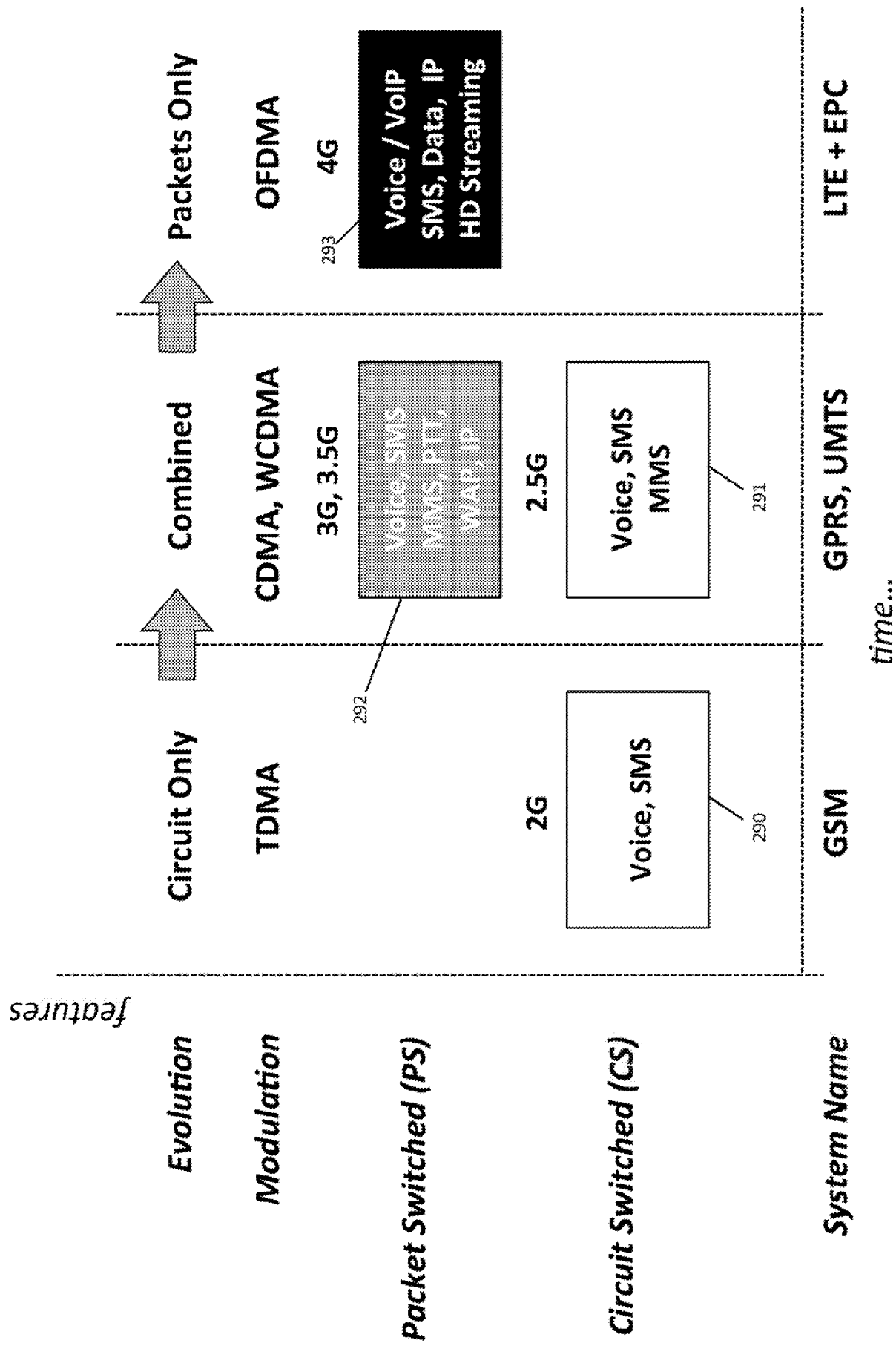


Figure 13

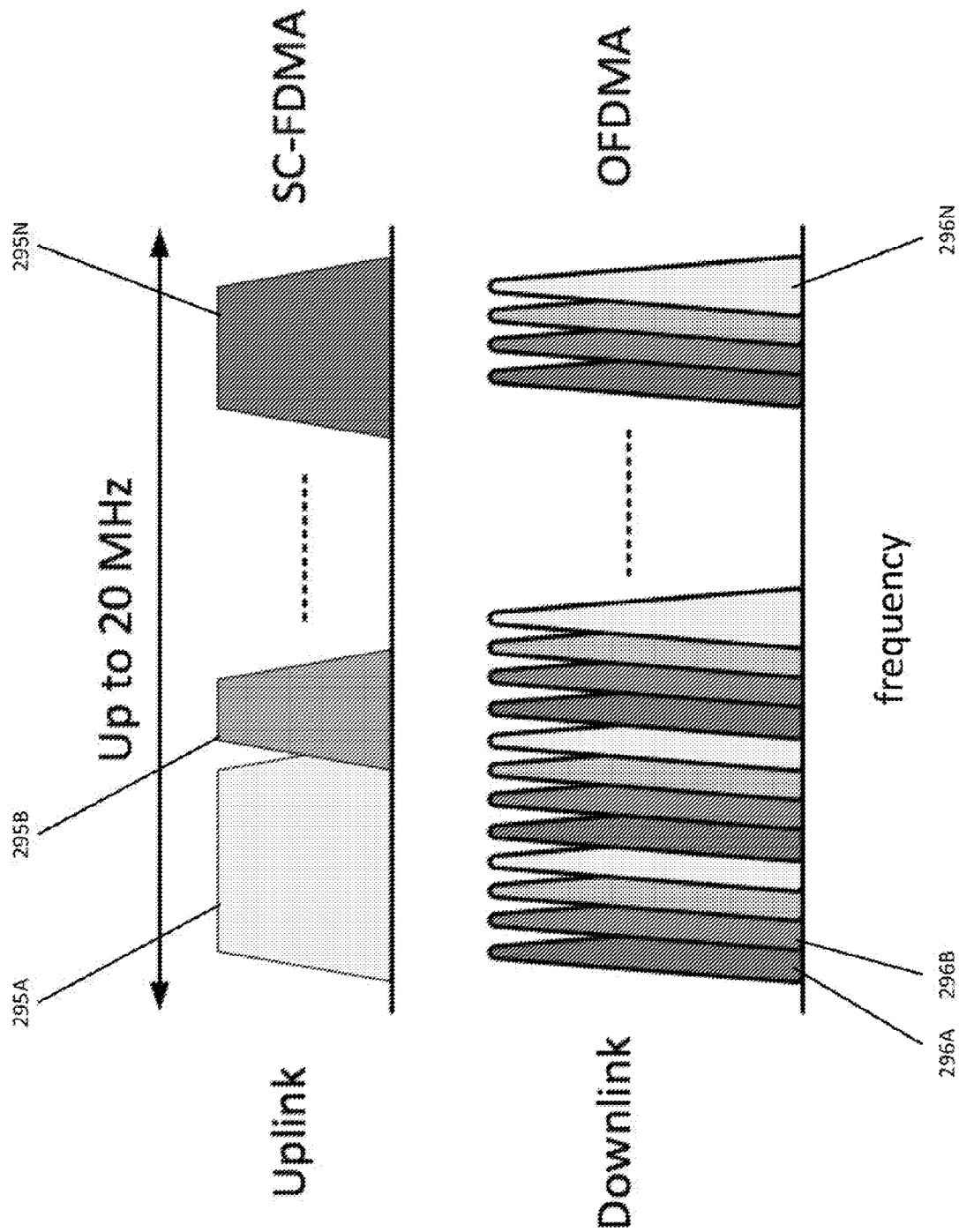


Figure 14A

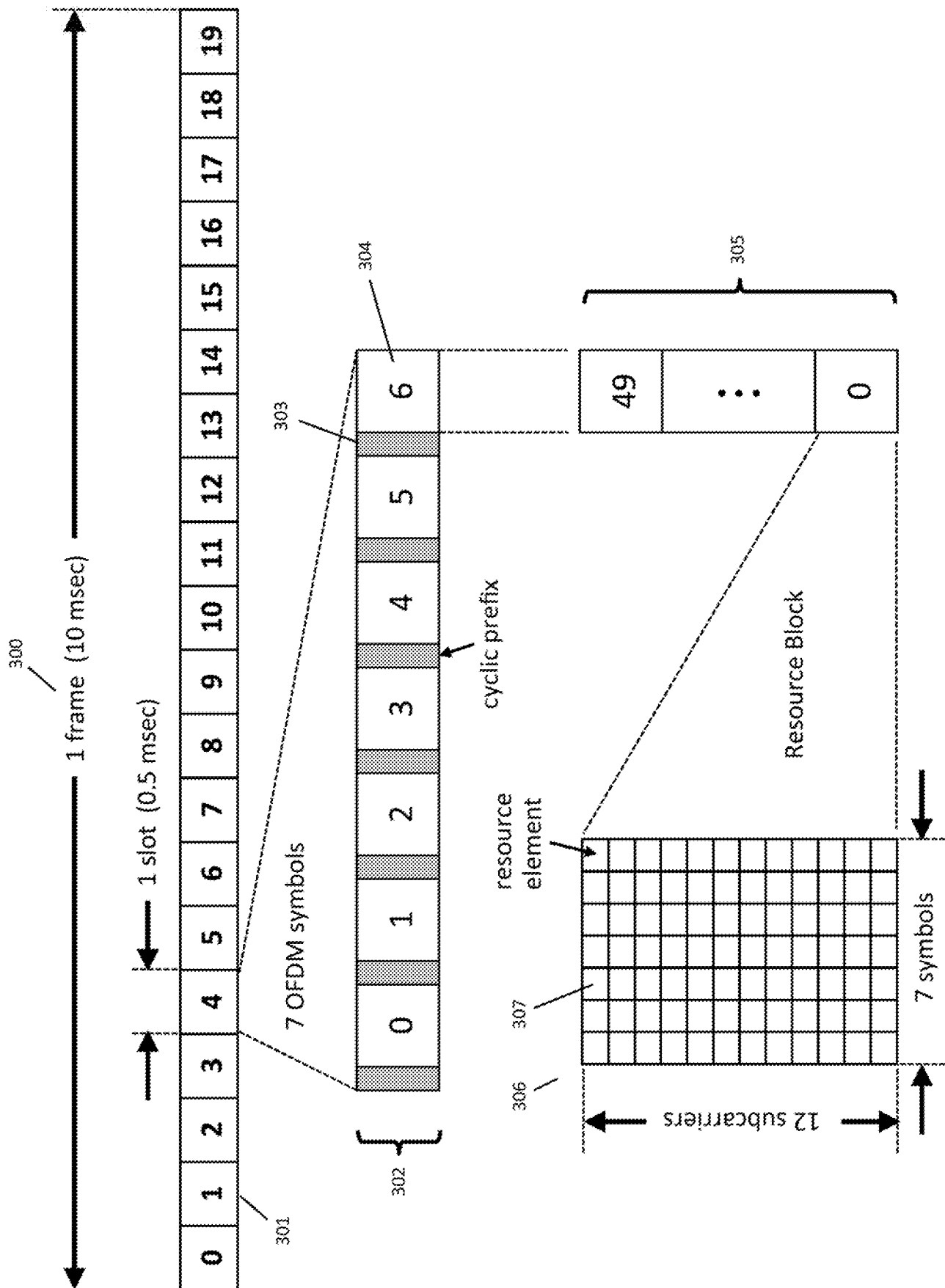


Figure 14B

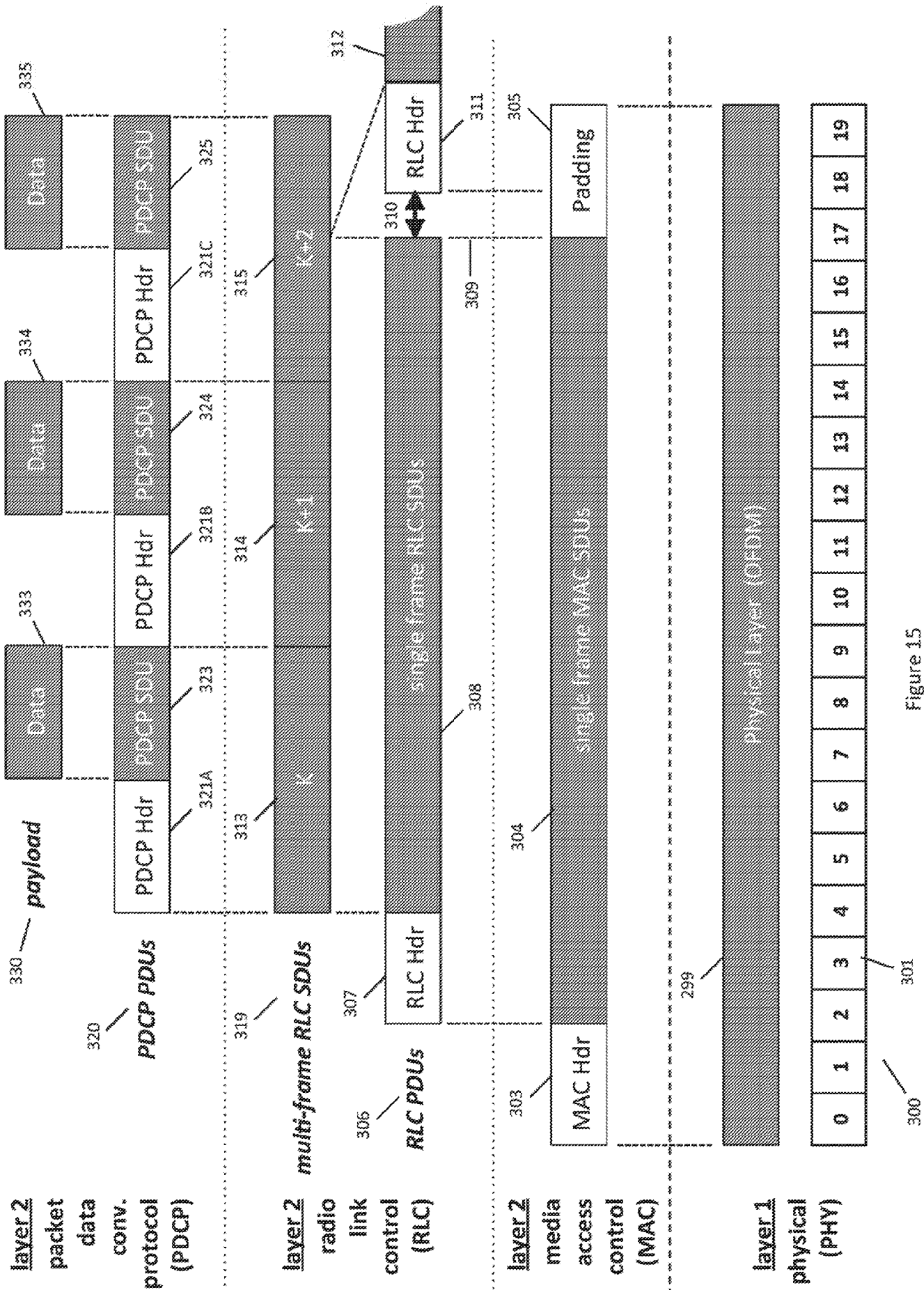


Figure 15

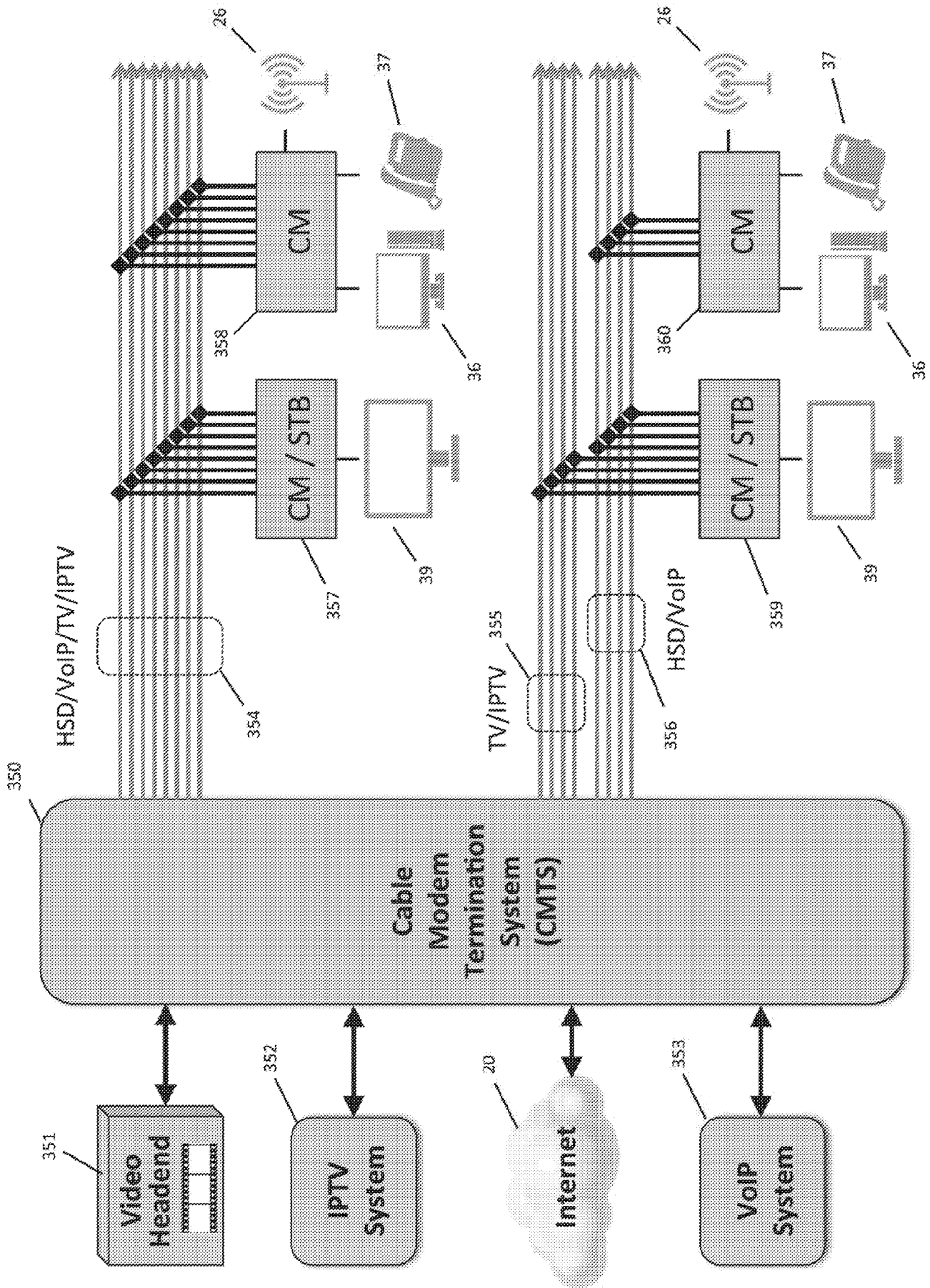


Figure 16

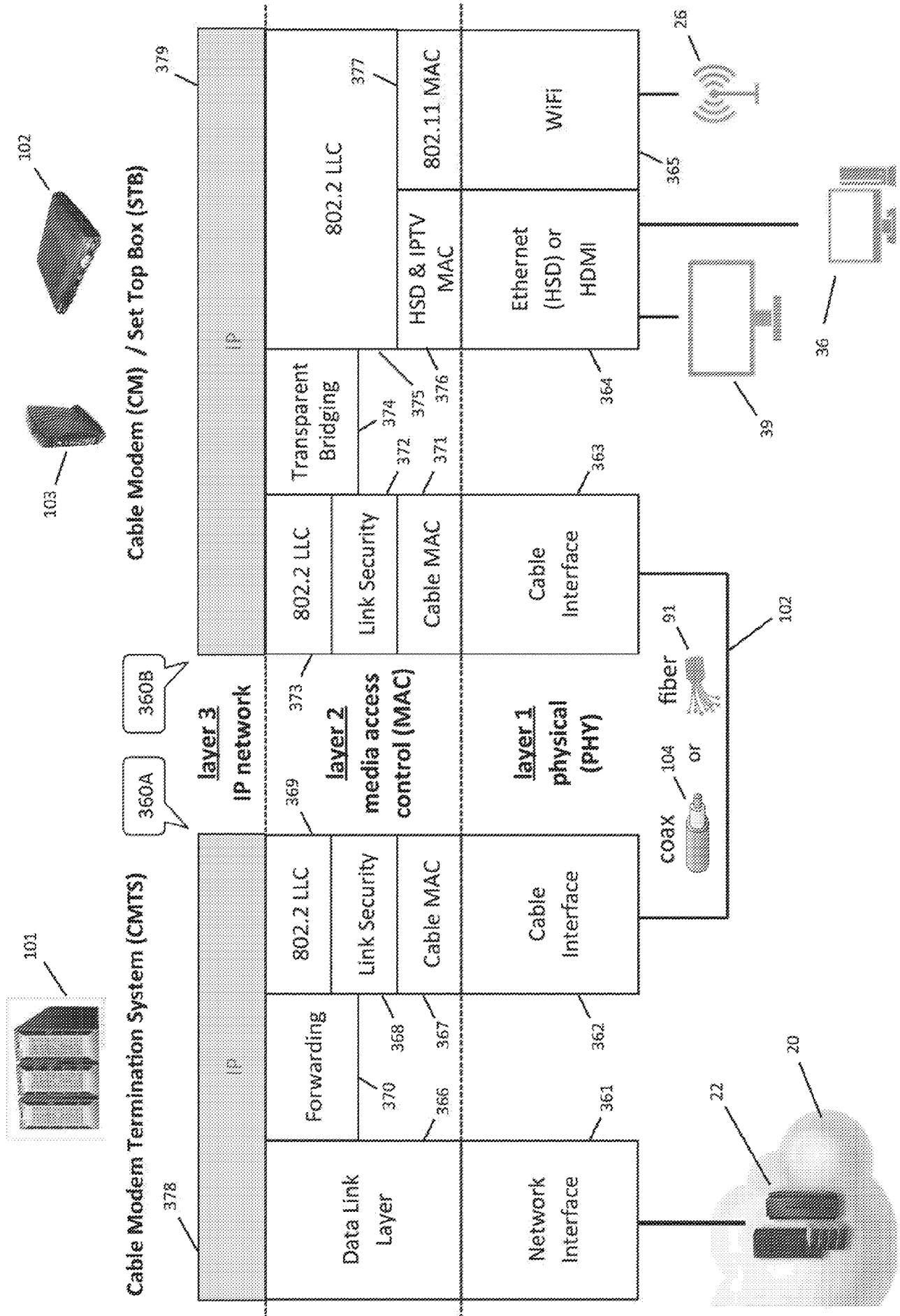


Figure 17

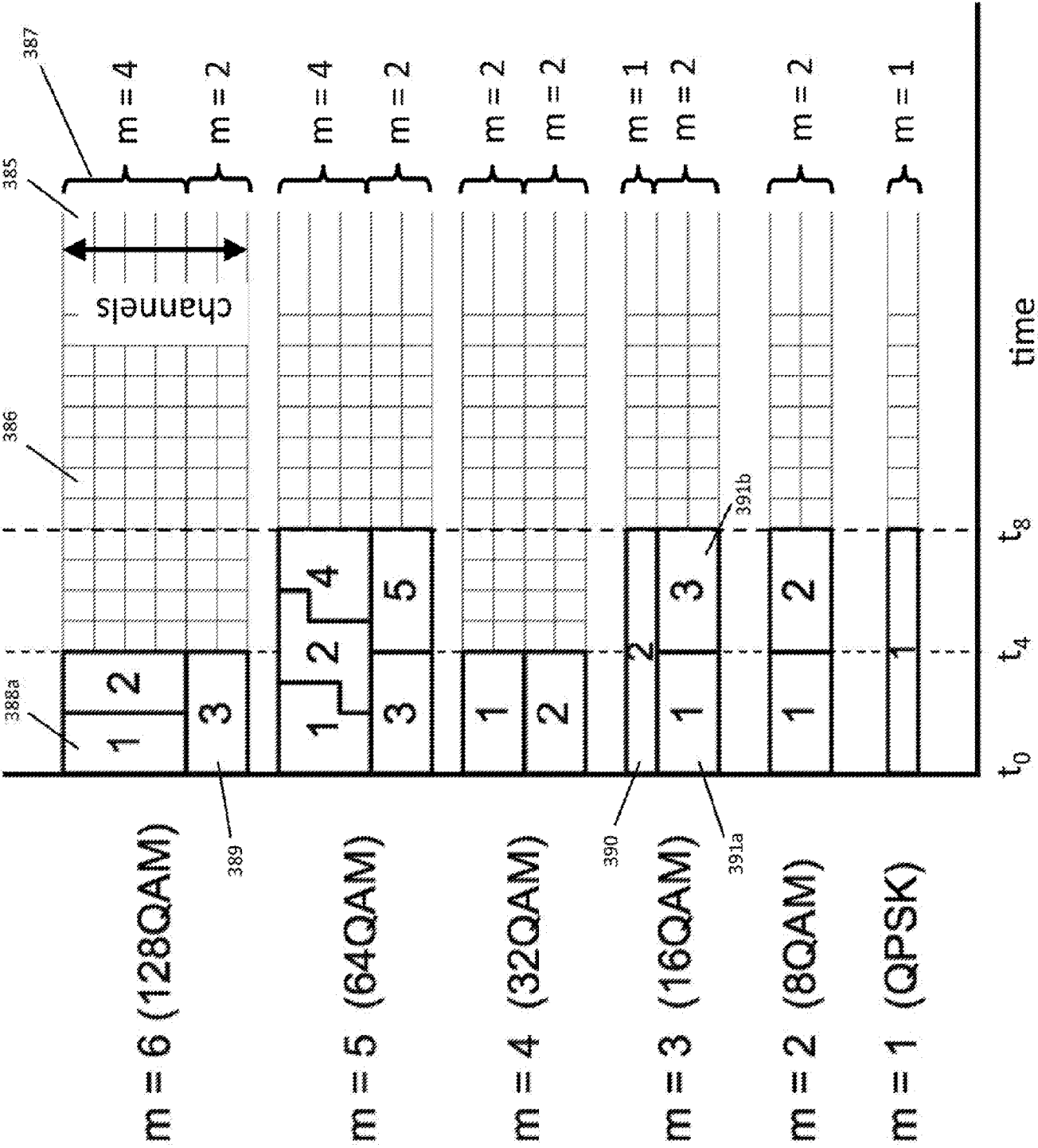


Figure 18

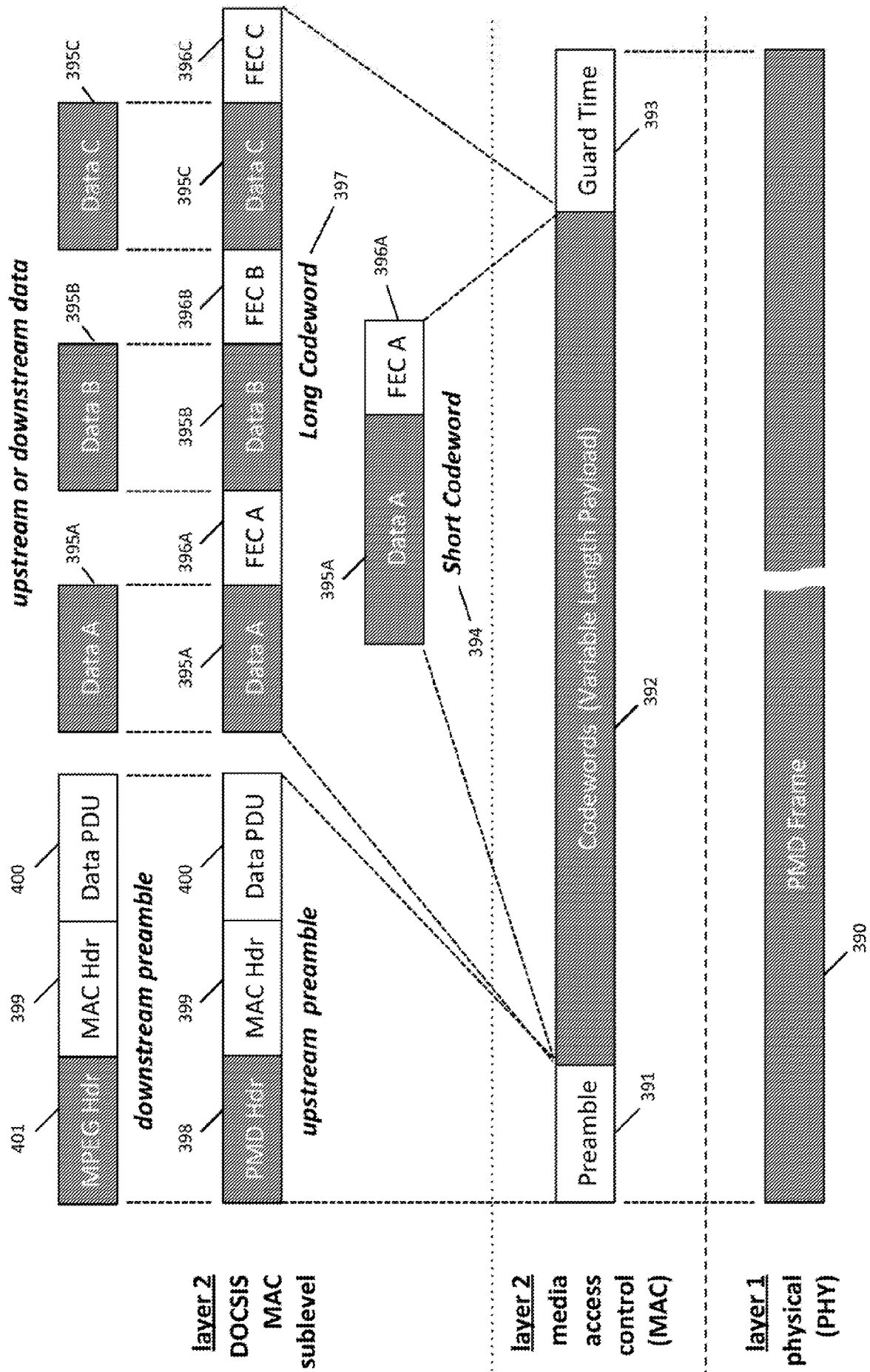


Figure 19

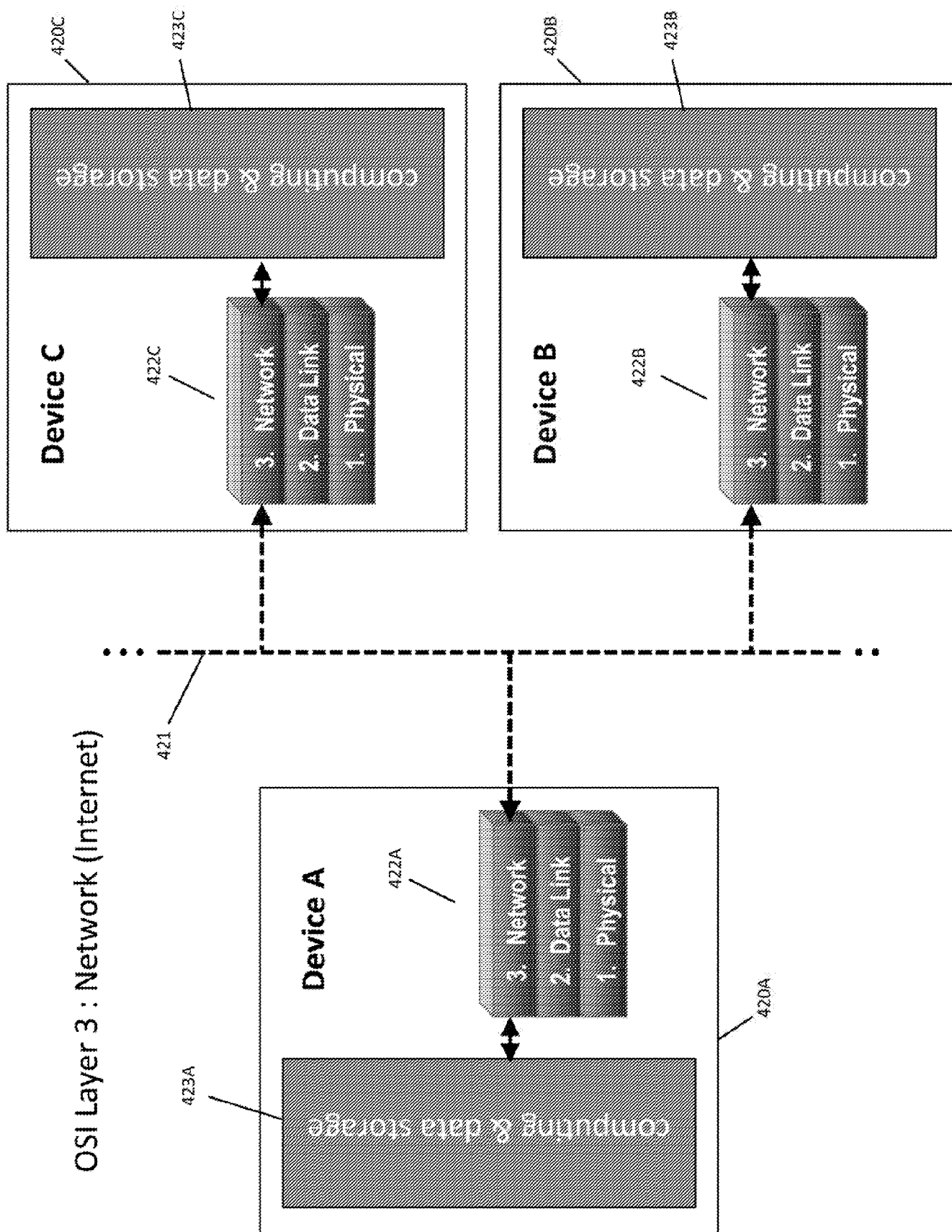


Figure 20

OSI Layers 1 to 7

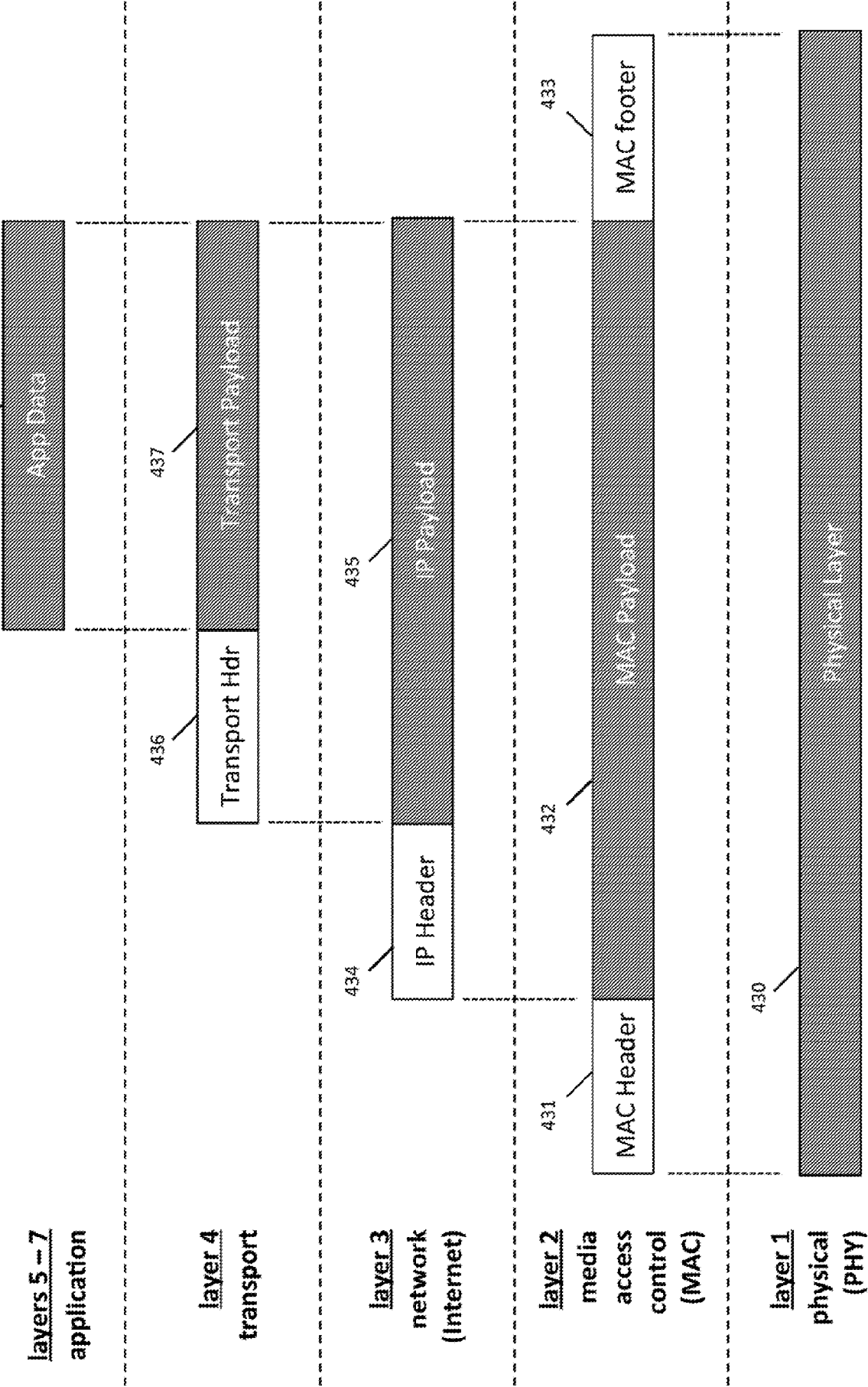


Figure 21

OSI Layer 3 : Network (Internet)

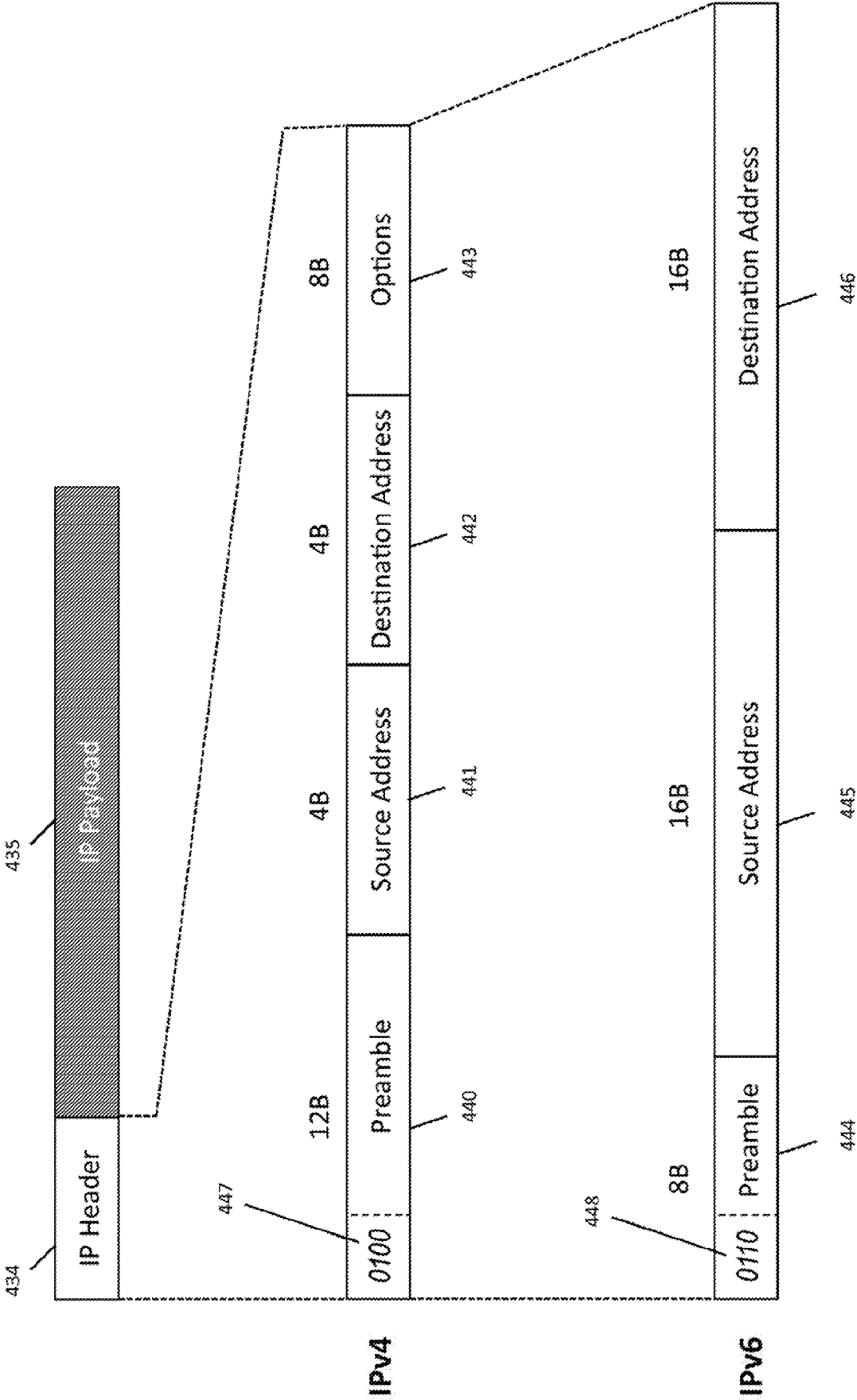


Figure 22

IPv4 Internet Protocol

Offsets	Octet	0			1			2			3																						
Octet	Bit	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
0	0	Version				IHL				DSCP				ECN				Total Length				Fragment Offset				Header Checksum				Source IP Address			
4	32	Time To Live				Identification				Protocol				Flags				Destination IP Address				Options (if IHL > 5)				Payload							
8	64																																
12	96																																
16	128																																
20	160																																

434

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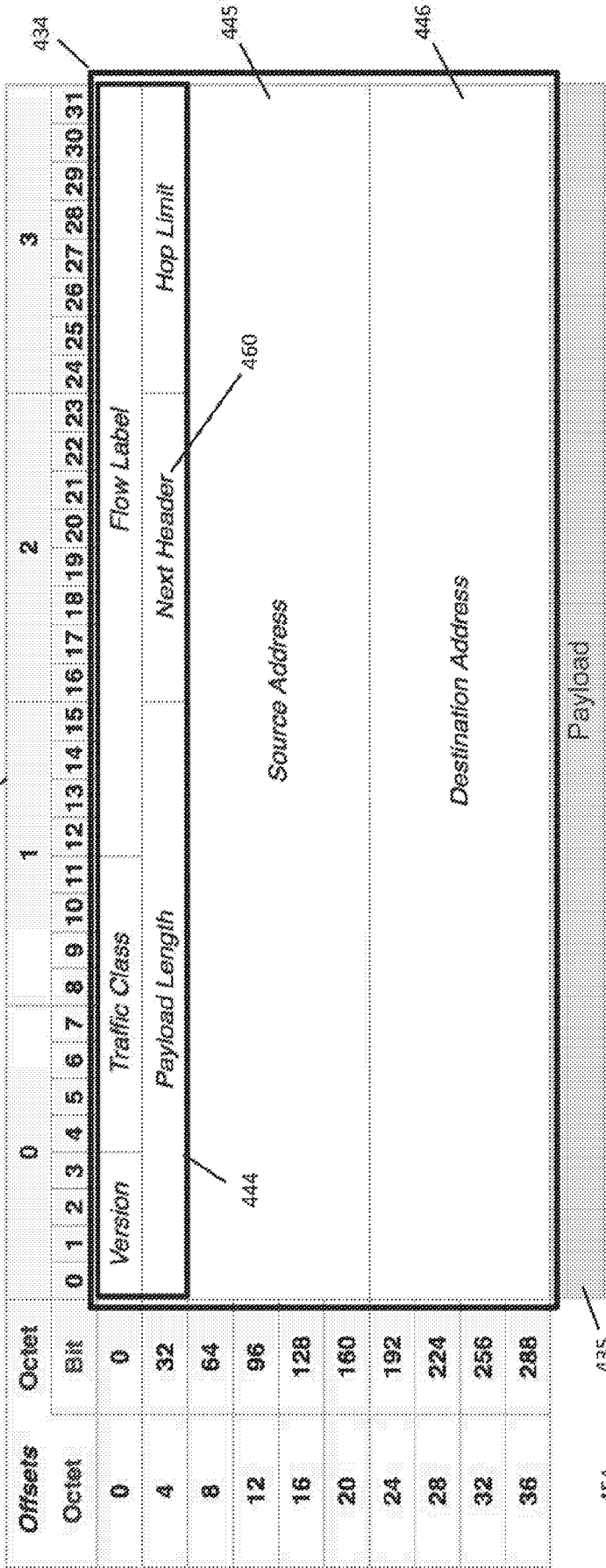
460

451

Layer	IPv4 Packet Field	Size		Function	
3	Version	IHL	4b	4b	Binary 0100 sets IP to version 4
3	DSCP	ECN	6b	2b	Differentiated services for QoS
3	Total Length		2B		Length of IP packet incl. header and data, 20B to 65,535B
3	Identification		2B		Uniquely identifies a group of fragments of a single IP datagram
3	Flags	Frag Offset	3b	13b	Flags to manage fragmentation
3	TTL	Protocol	1B	1B	Time-to-live to prevent immortals
3	Header Checksum		2B		16-bit checksum used for header error-checking, drops error packets
3	Source Address		4B		IPv4 address of the sender of the packet, NAT may change IP address
3	Destination Address		4B		IPv4 address of the receiver of the packet, NAT may change IP address
3	Options (if IHL > 5)		4B		Infrequently used field, subject to security risks, active for IHL = 6 to 15

Figure 23

IPv6 Internet Protocol



Layer	IPv6 Packet Field	Size	Function
3	Version	4b	Binary 0110 sets IP to version 6
3	Traffic Class	8b	6b differentiated services & 2b ECN
3	Flow Label	20b	Maintains path to avoid reordering in real-time applications
3	Payload Length	2B	Payload size in octets, including any extension headers
3	Next Header	1B	Specifies the type of next header, same as IPv4 protocol field
3	Hop Limit	1B	Replaces IPv4 time to live field, decrements by 1 for each node passed
3	Source Address	16B	The IPv6 address of the sending node
3	Destination Address	16B	The IPv6 address of the destination node(s)

Figure 24

OSI Layer 3 : Network (Internet)

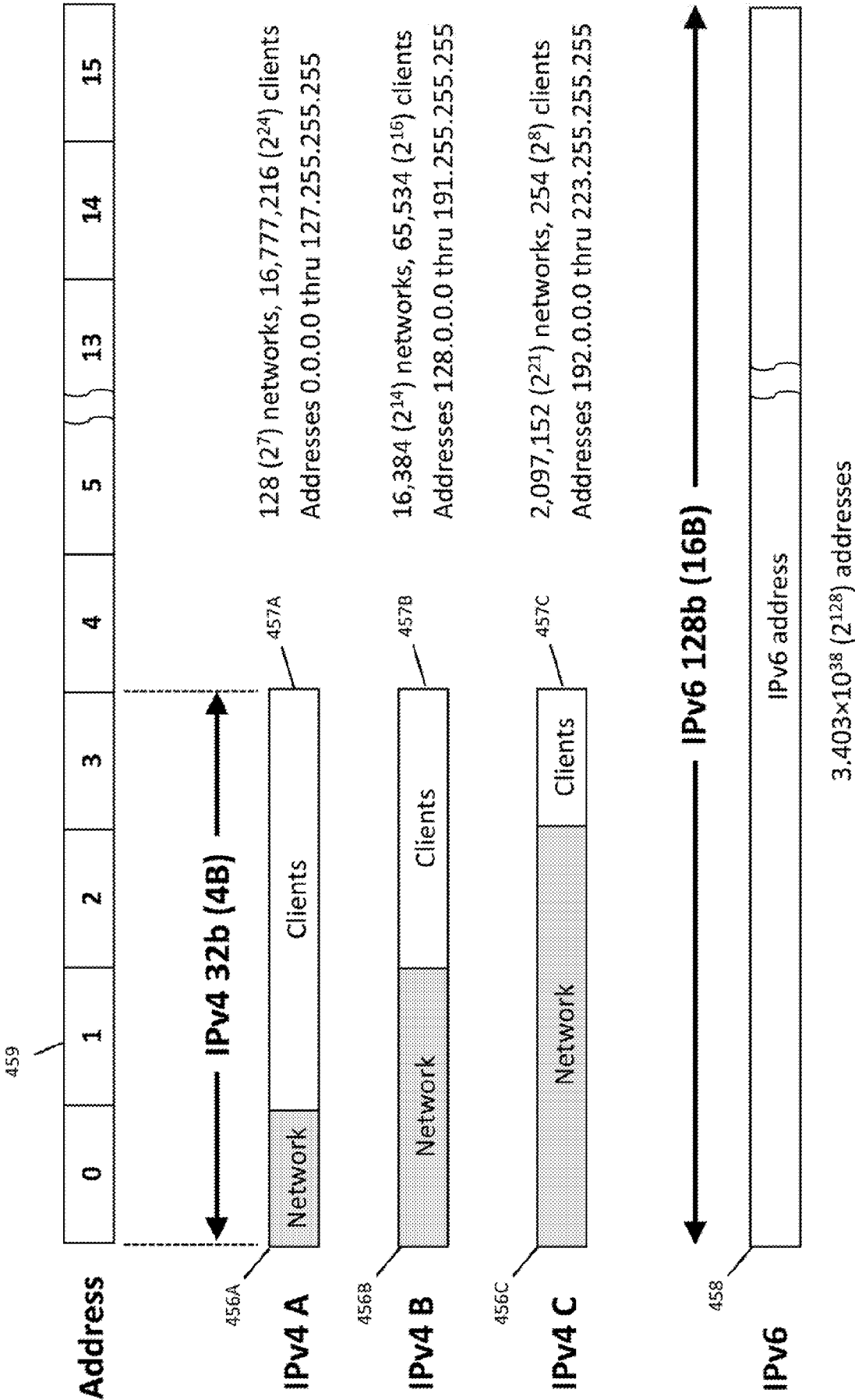


Figure 25

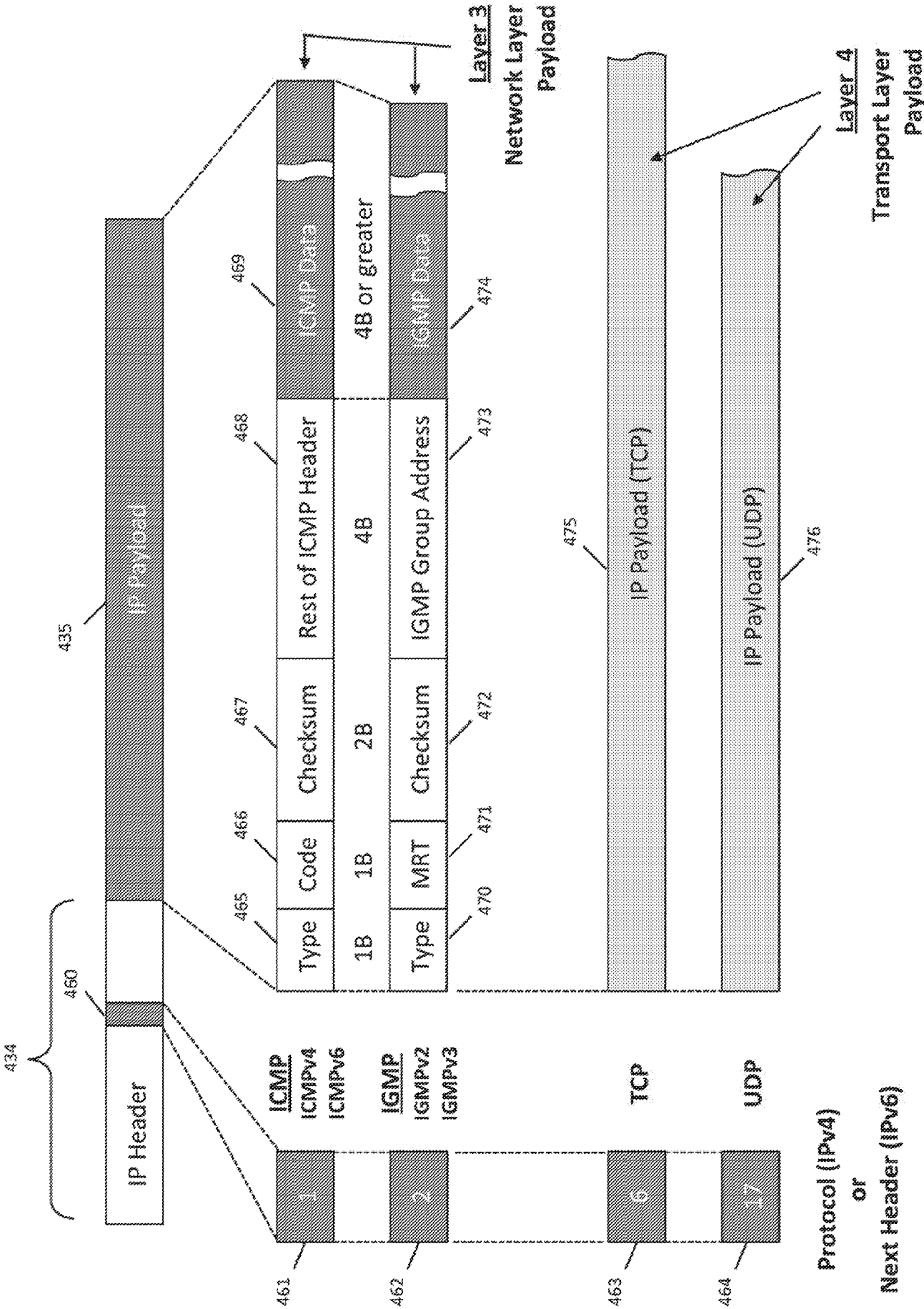


Figure 26

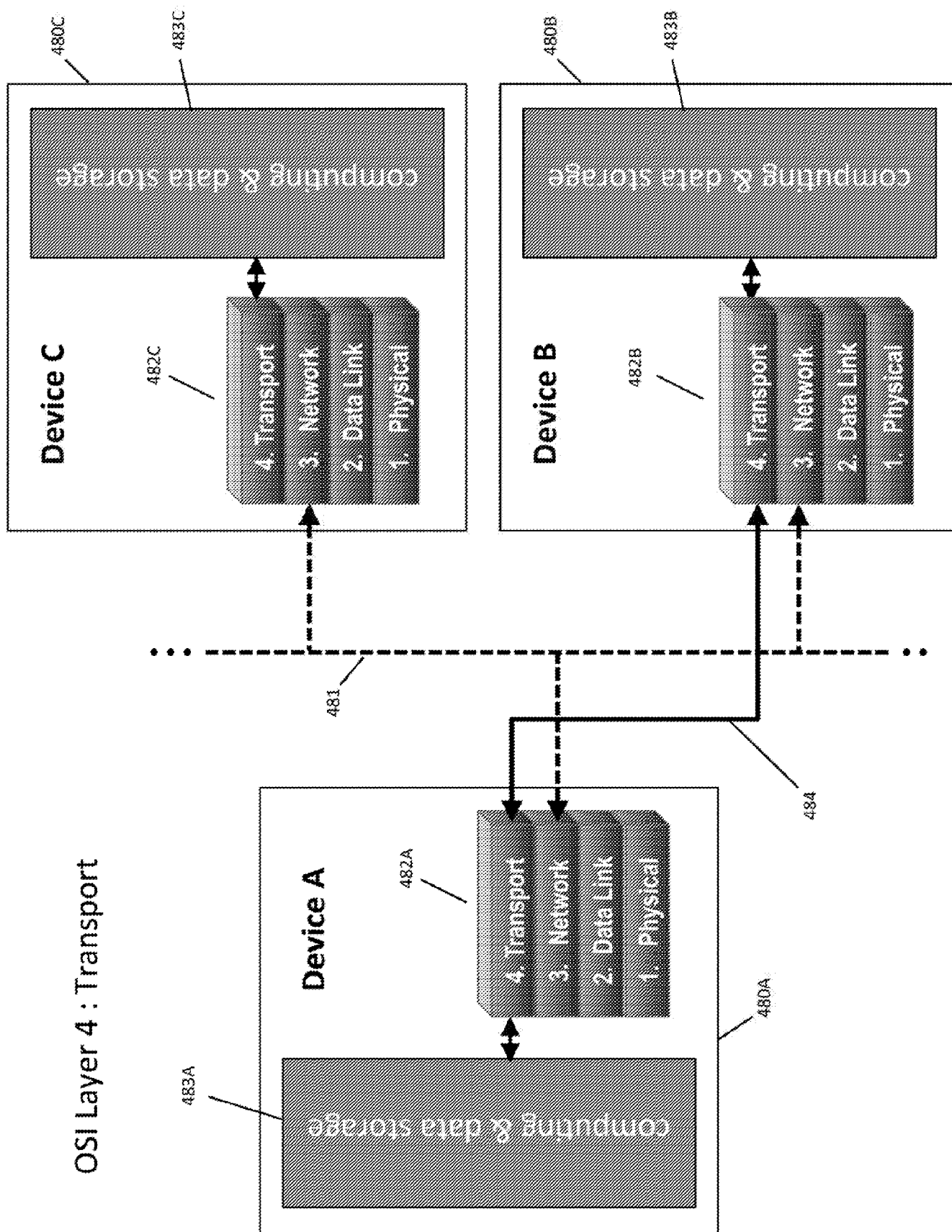


Figure 27

OSI Layer 4 : Transport (TCP)

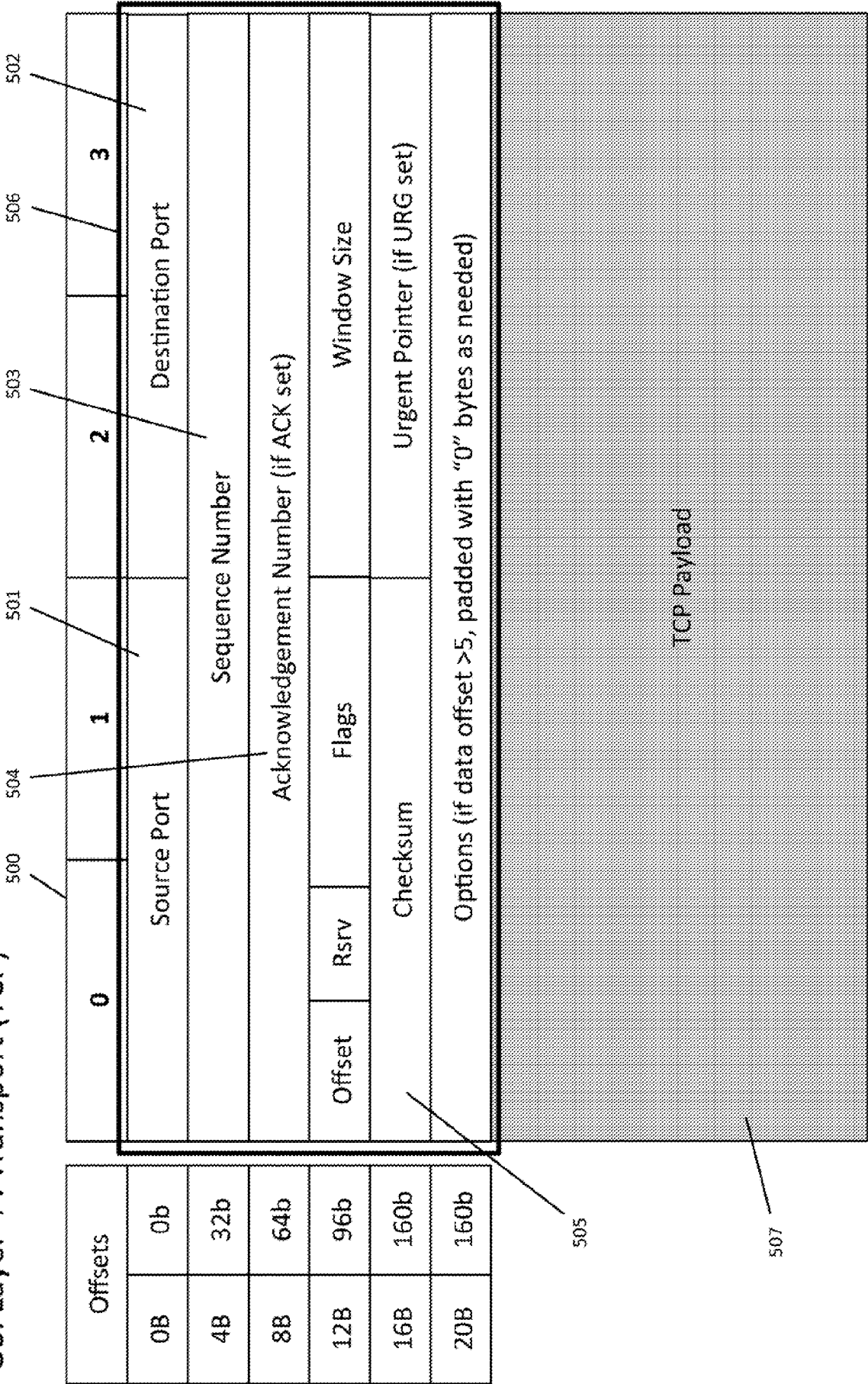


Figure 28A

508

Layer	TCP Field	Size	TCP Function
4	Source Port	2B	Senders port, port for which reply should be sent
4	Destination Port	2B	Receiver's port (required), well known port # if server
4	Sequence Number	4B	Packet counter (SEQ #) incrementing each ACK reply by one
4	Acknowledgement #	4B	Acknowledges receipt of each packet in a sequence by sequence #
4	Offset	4b	Size of TCP header (offset from TCP header to data start), 20B to 60B
4	Reserved	3b	Reserved for future, default to 000 binary
4	Flags	9b	Control bits for congestion, urgency, acknowledgement, sync & reset
4	Window Size	2B	Size of the receive window
4	Checksum	2B	Error checking comprising 16b checksum of header and payload data
4	Urgent Pointer	2B	Offset from SEQ # indicating last urgent data byte (if URG is set to 1)
4	Options	1B to 40B	Option- Kind (1B required), Length (1B option), Data (var), as per Offset
4-7	TCP Payload	variable	TCP payload data

Figure 28B

OSI Layer 4 : Transport (TCP)

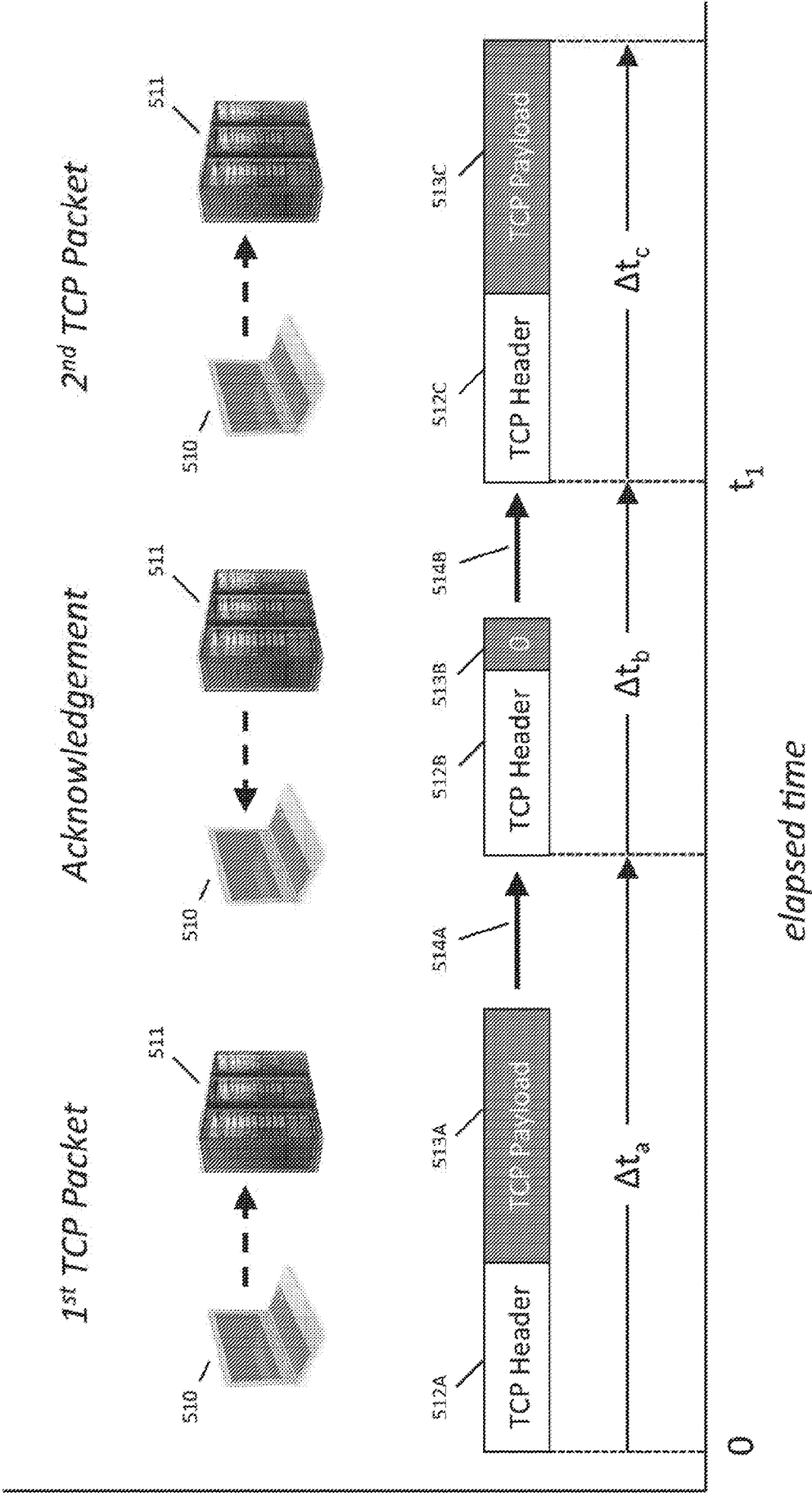
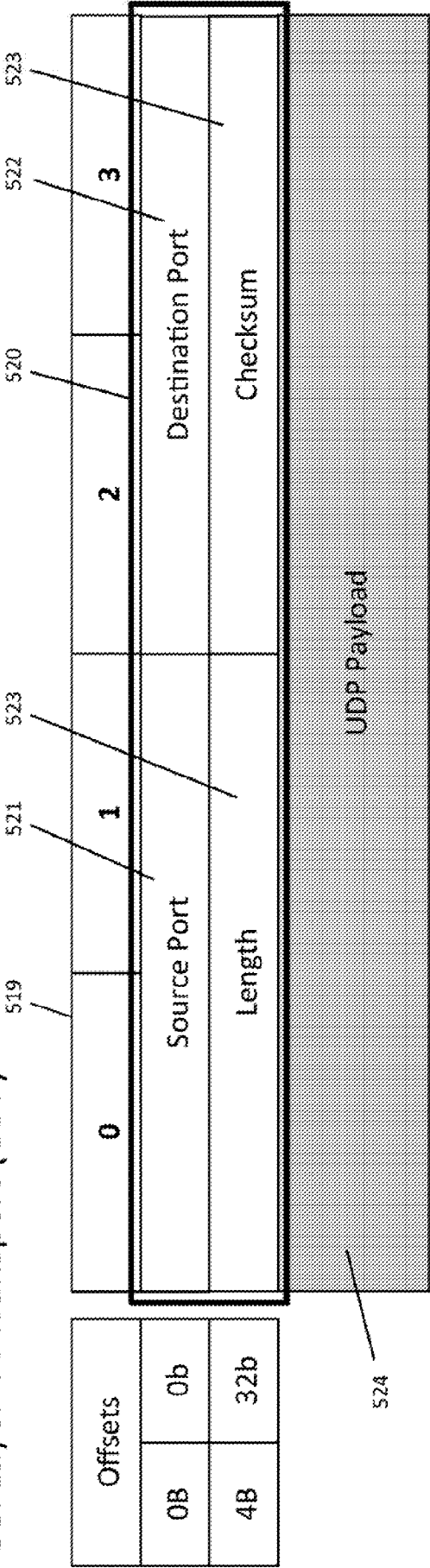


Figure 29

OSI Layer 4 : Transport (UDP)



Layer	UDP Field	Size	Function
4	Source Port	2B	Senders port, port for which reply should be sent
4	Destination Port	2B	Receiver's port (required), well known port # if server
4	Length	2B	Total length of UDP header and payload, 8B to 65,535B
4	Checksum	2B	Error checking, required in IPv6, uses pseudo-header in IPv4 and IPV6
4-7	UDP Payload	variable	UDP payload data, 0B to 65,507B in IPv4

Figure 30

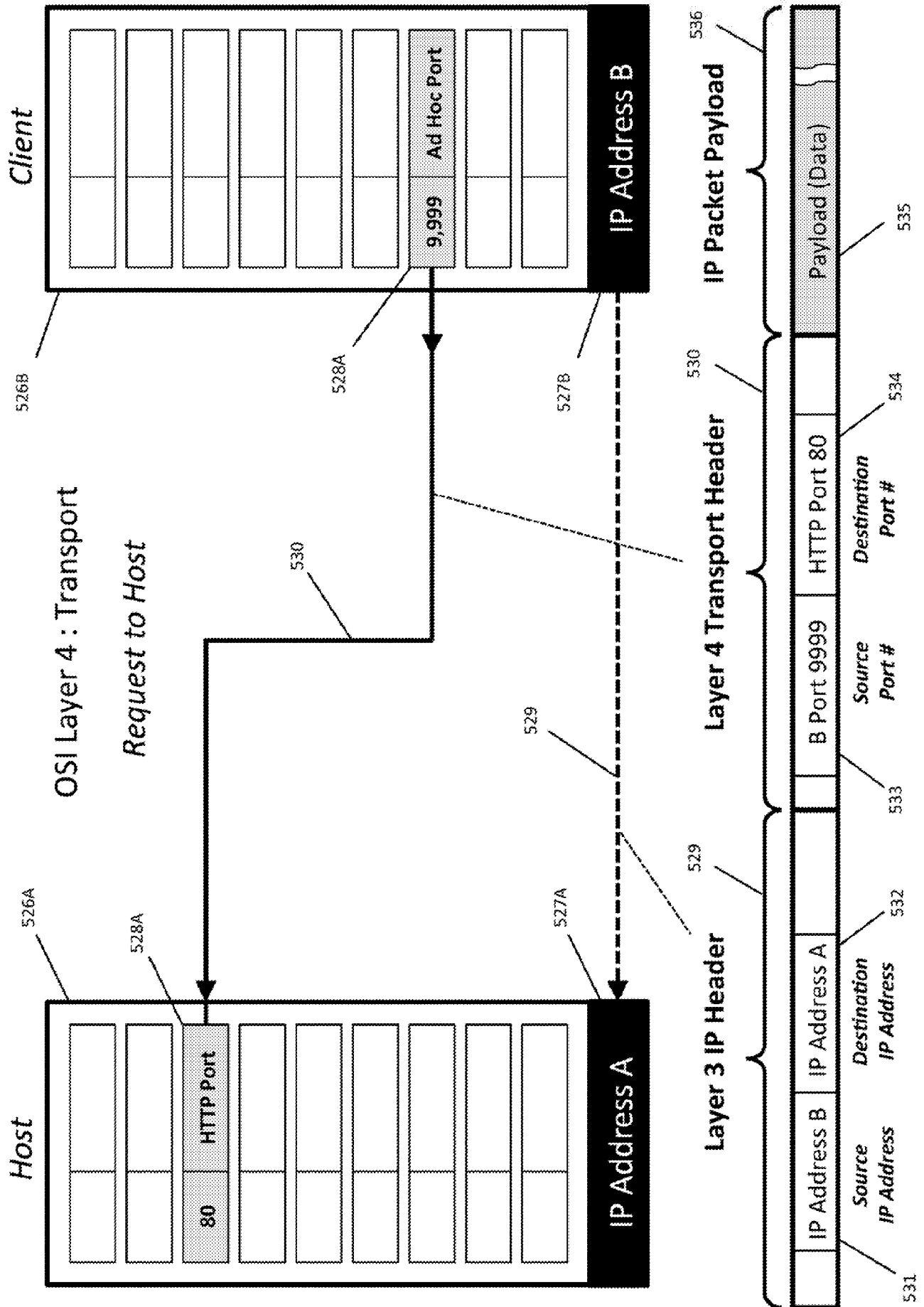


Figure 31A

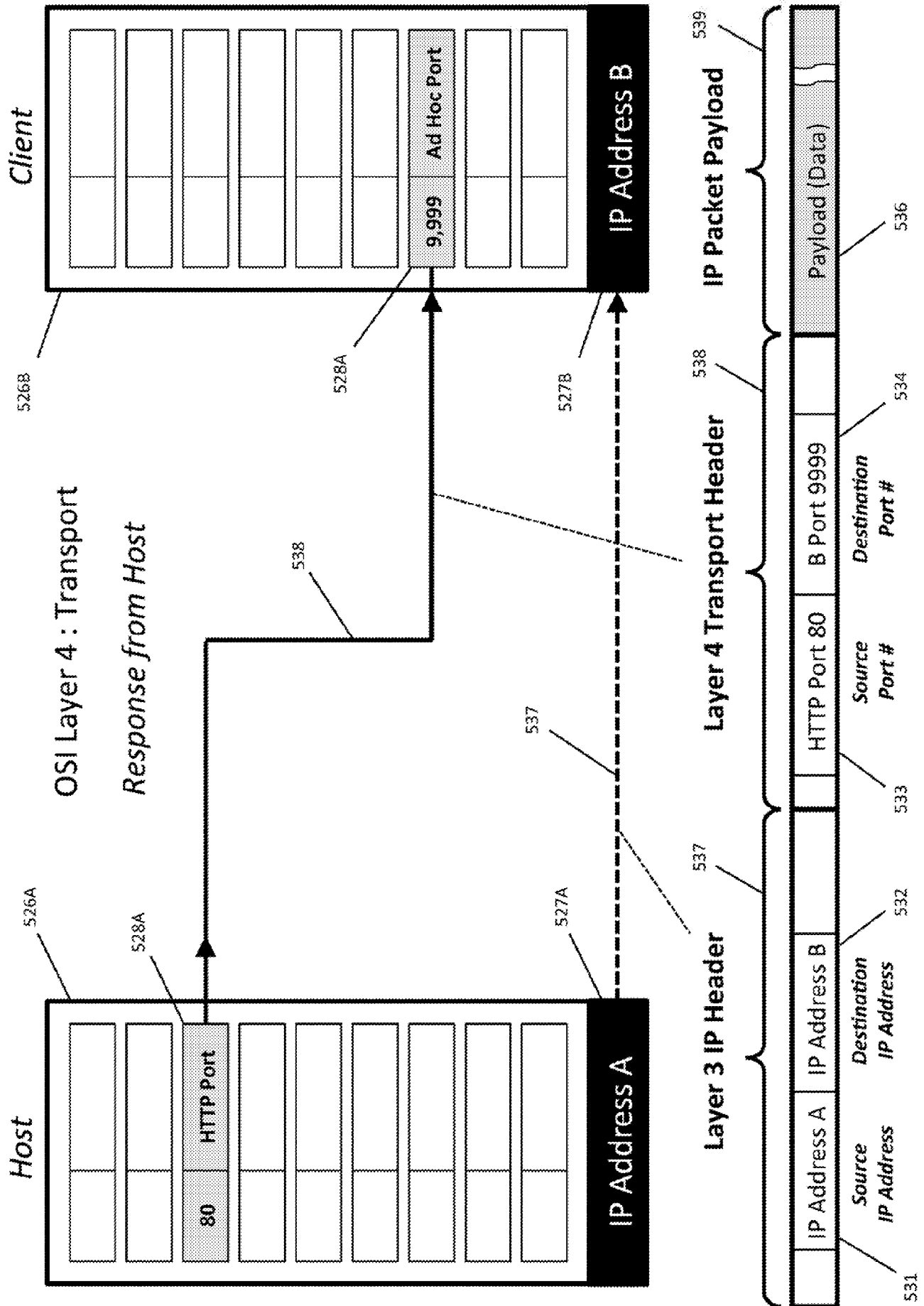


Figure 31B

Port #	UDP	TCP	Port Description	Registered
7	UDP	TCP	Echo/Ping (generally superseded by ICMP)	Official
20	UDP	TCP	FTP Data Transfer	Official
21	—	TCP	FTP Control (command)	Official
22	UDP	TCP	Secure shell (SSH) for secure login (SCP), SFTP, port forwarding	Official
23	UDP	TCP	Telnet	Official
25	—	TCP	Simple Mail Transfer (SMTP)	Official
26	UDP	TCP	Encrypted SMTP	Official
53	UDP	TCP	Domain Name Server (DNS)	Official
80	—	TCP	Hypertext Transfer Protocol (HTTP)	Official
110	—	TCP	Post Office Protocol (POP3)	Official
143	—	TCP	Internet Mail Access Protocol (IMAP)	Official
220	UDP	TCP	Internet Mail Access Protocol (IMAP v3)	Official
443	—	TCP	Hypertext Transfer Protocol over TLS/SSL (HTTPS)	Official
465	—	TCP	Simple Mail Transfer Protocol over TLS/SSL (SMTPS)	Official
989	UDP	TCP	FTPS Protocol (data): FTP over TLS/SSL	Official
990	UDP	TCP	FTPS Protocol (control): FTP over TLS/SSL	Official
992	UDP	TCP	TELNET protocol over TLS/SSL	Official
993	—	TCP	Internet Message Access Protocol over TLS/SSL (IMAPS)	Official
995	—	TCP	Post Office Protocol 3 over TLS/SSL (POP3S)	Official

540

Figure 31C

541

Port Number	UDP	TCP	Port Description	Registered
0 to 1,023	UDP	TCP	System Ports	Generally
1,024 to 49,151	UDP	TCP	Registered Ports, Open (Dynamic) Ports	Mixed
49,152 to 65,535	UDP	TCP	Open (Dynamic), Private and Ephemeral Ports	No

Figure 31D

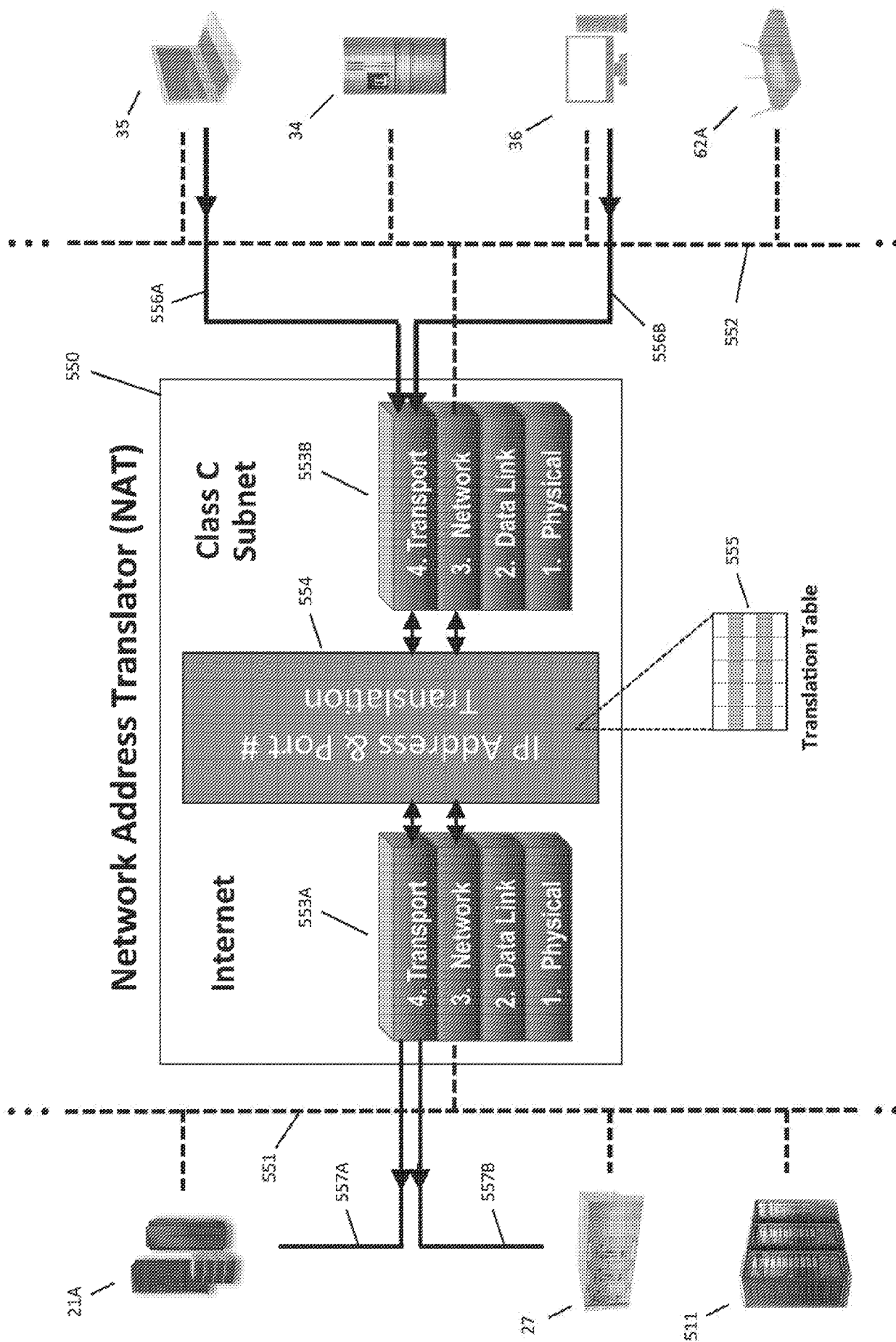


Figure 32A

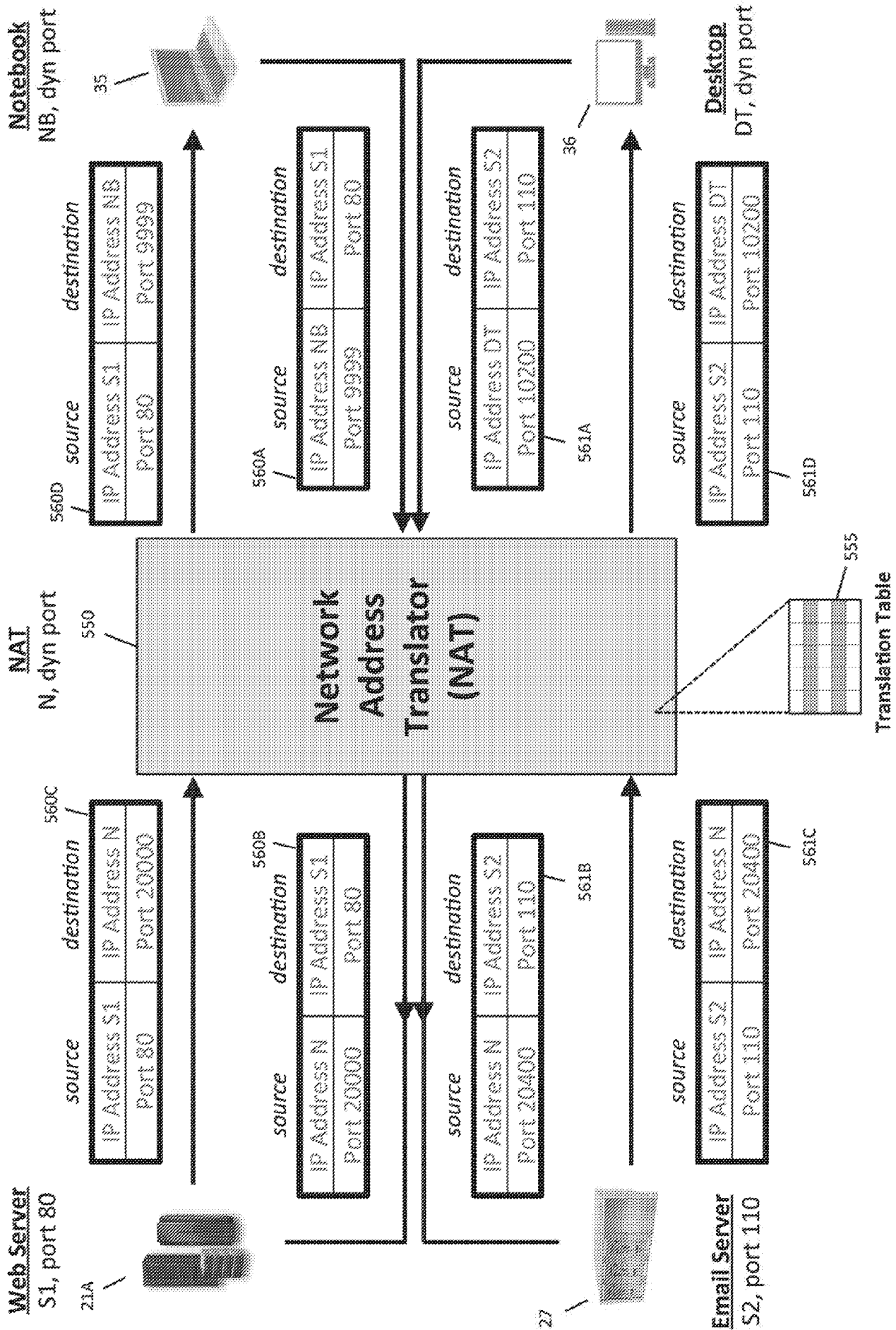


Figure 32B

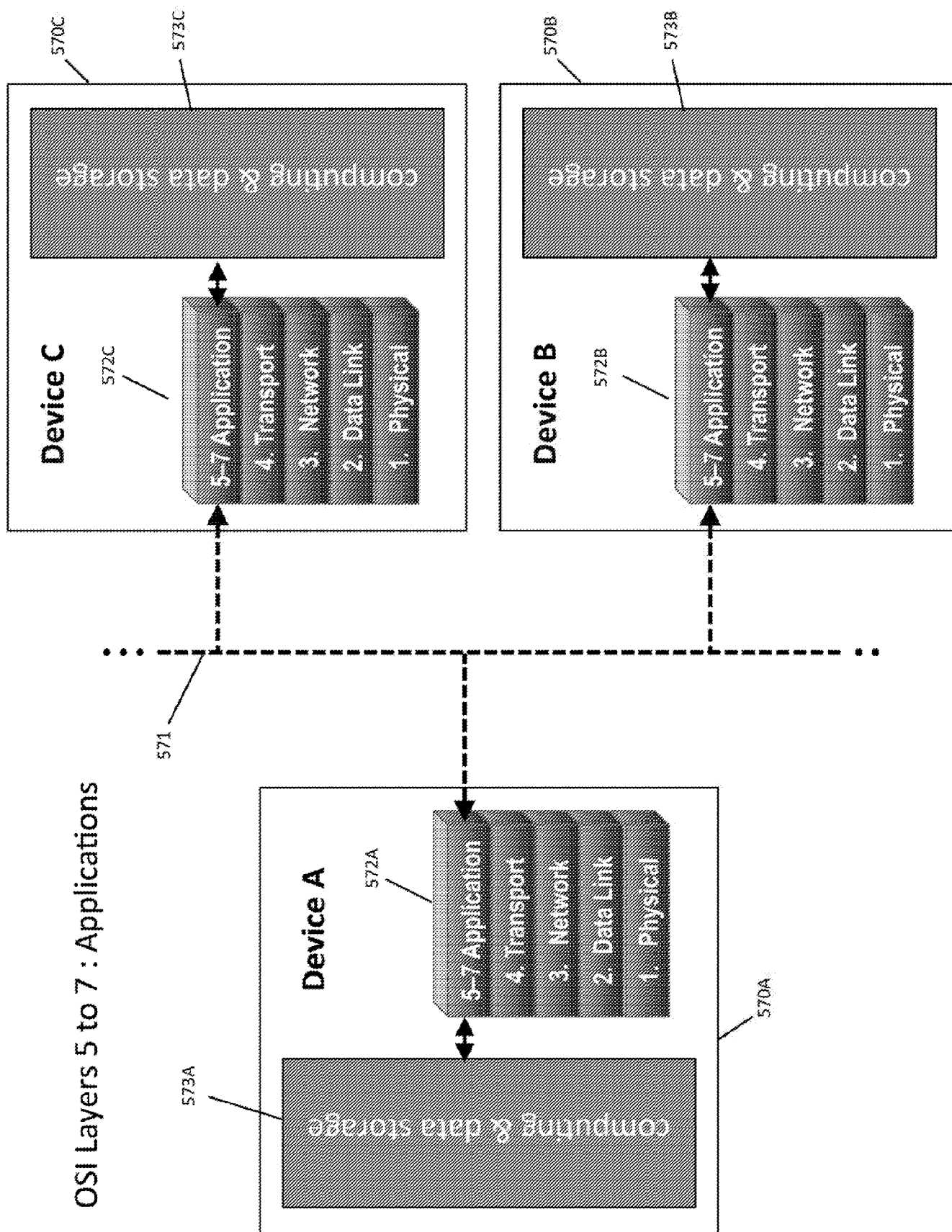
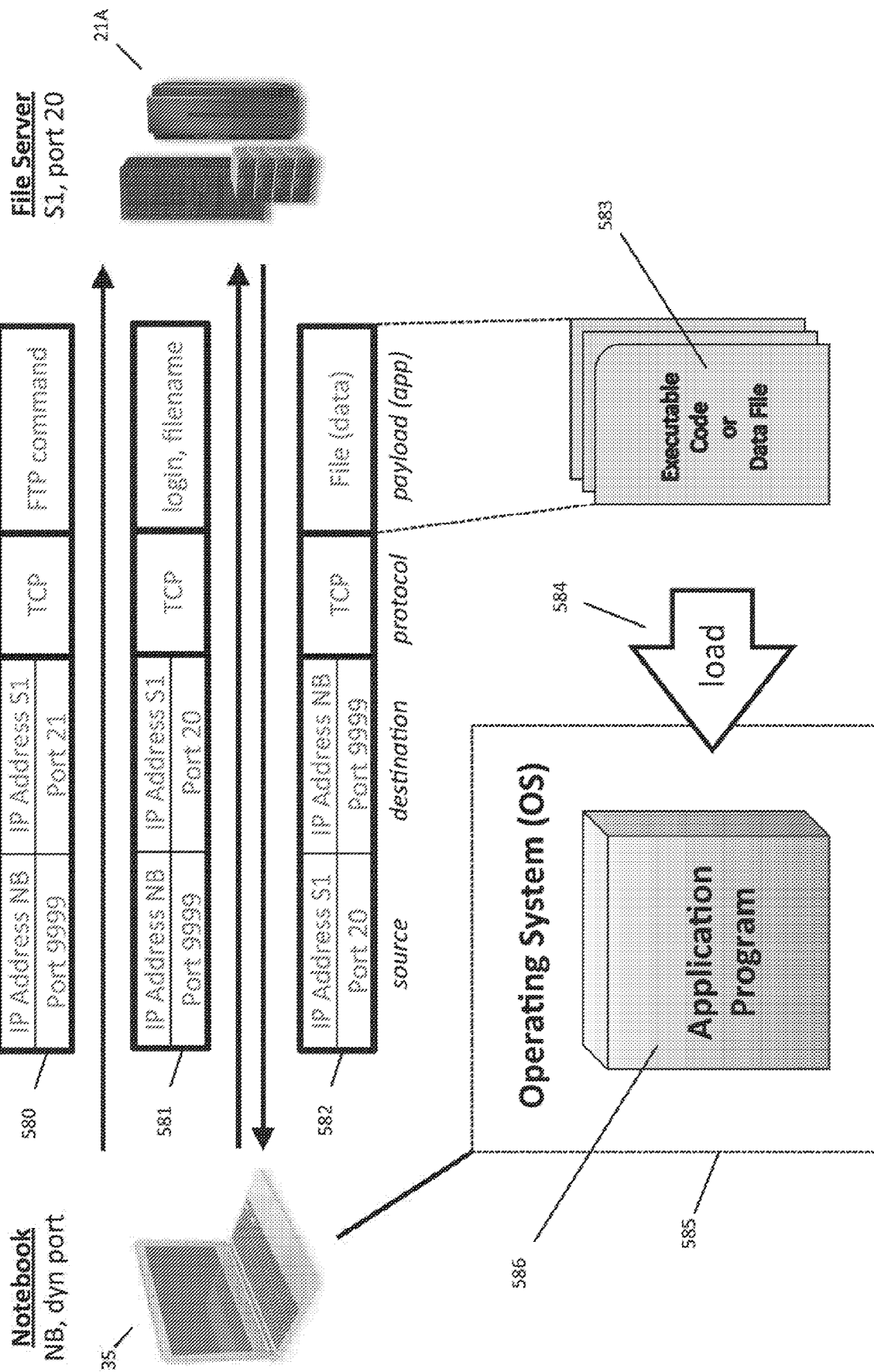


Figure 33



OSI Layer 7 : Content Download via FTP

Figure 34

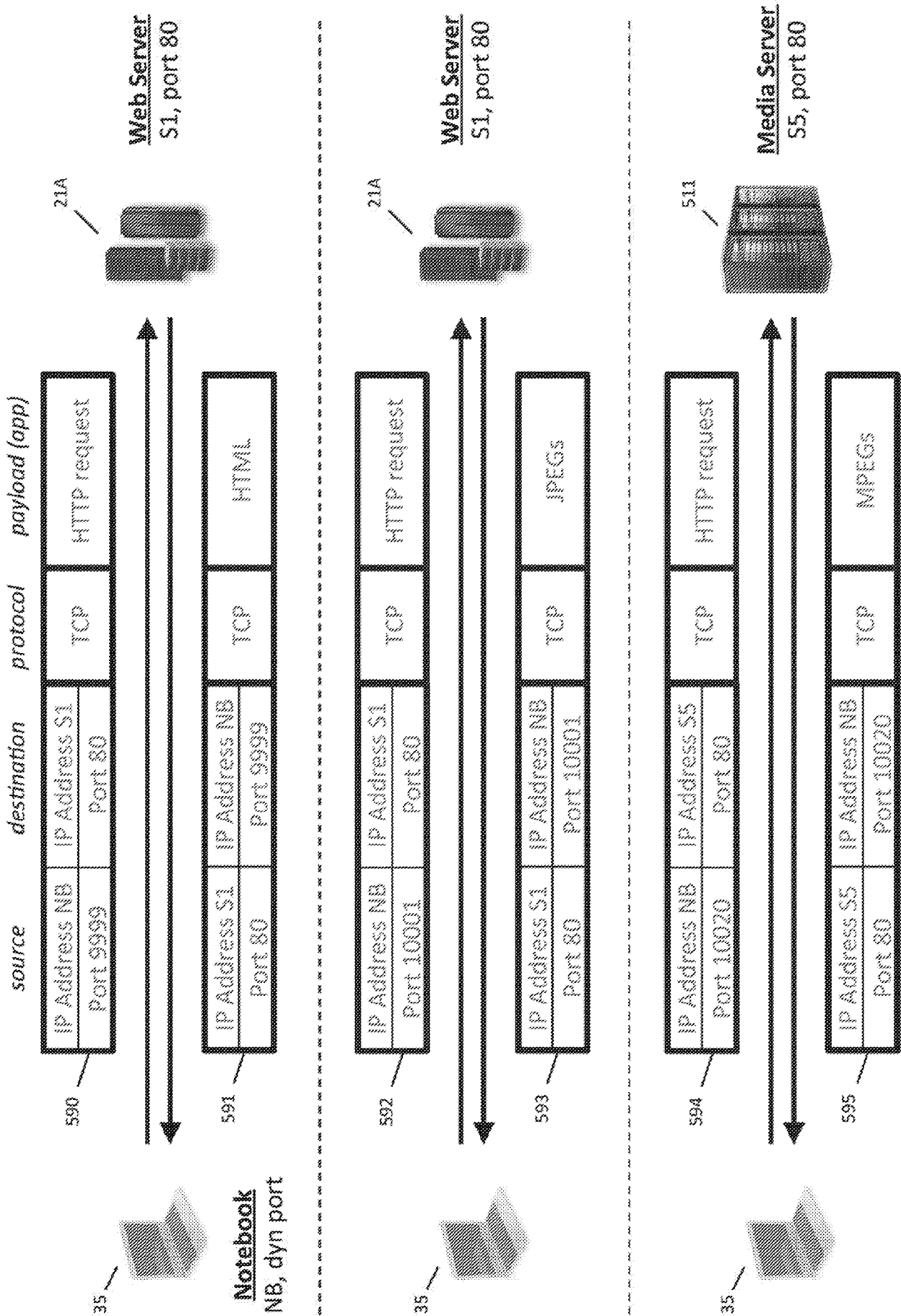


Figure 35A

OSI Layer 7 : web page download via HTTP

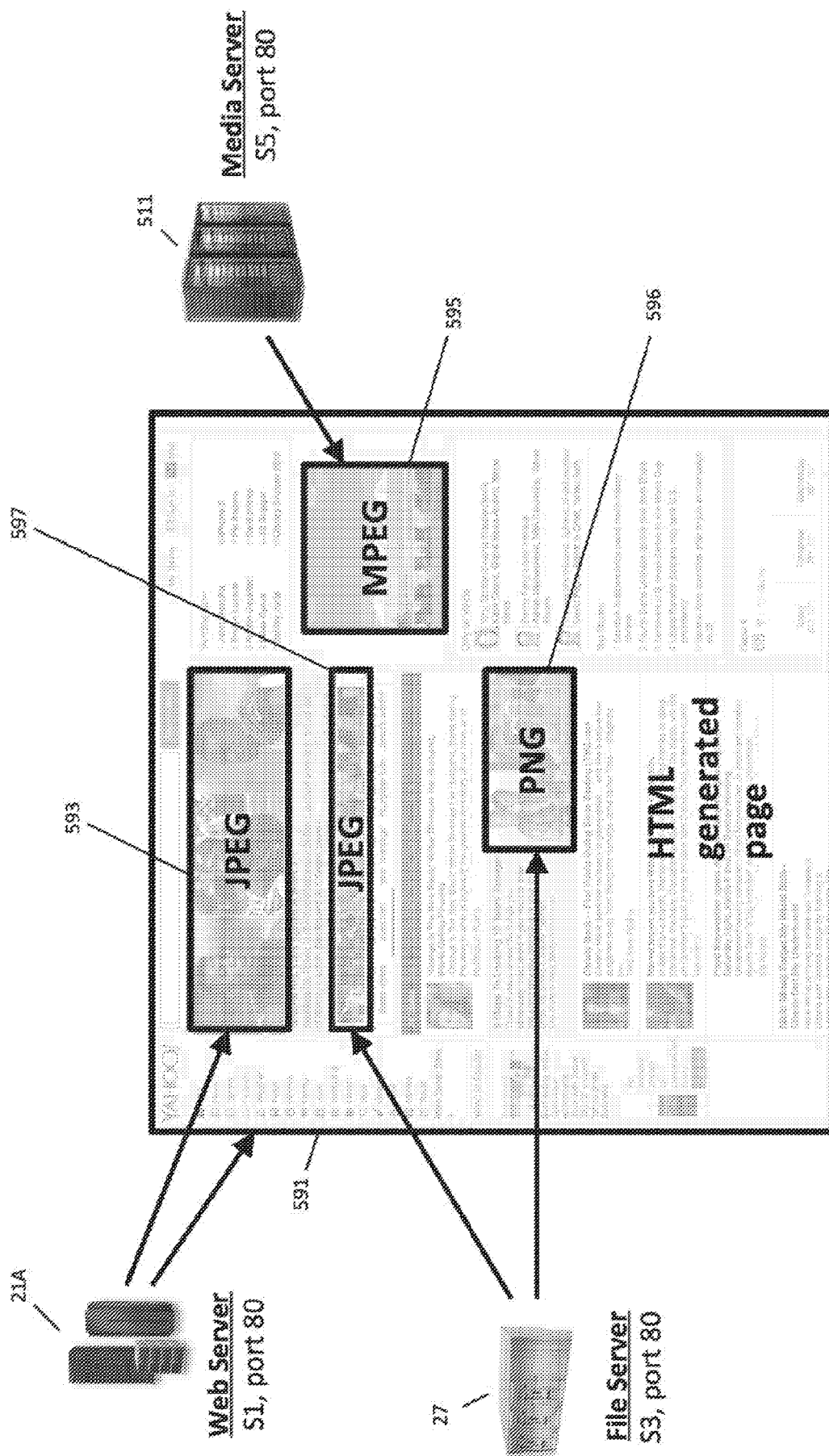
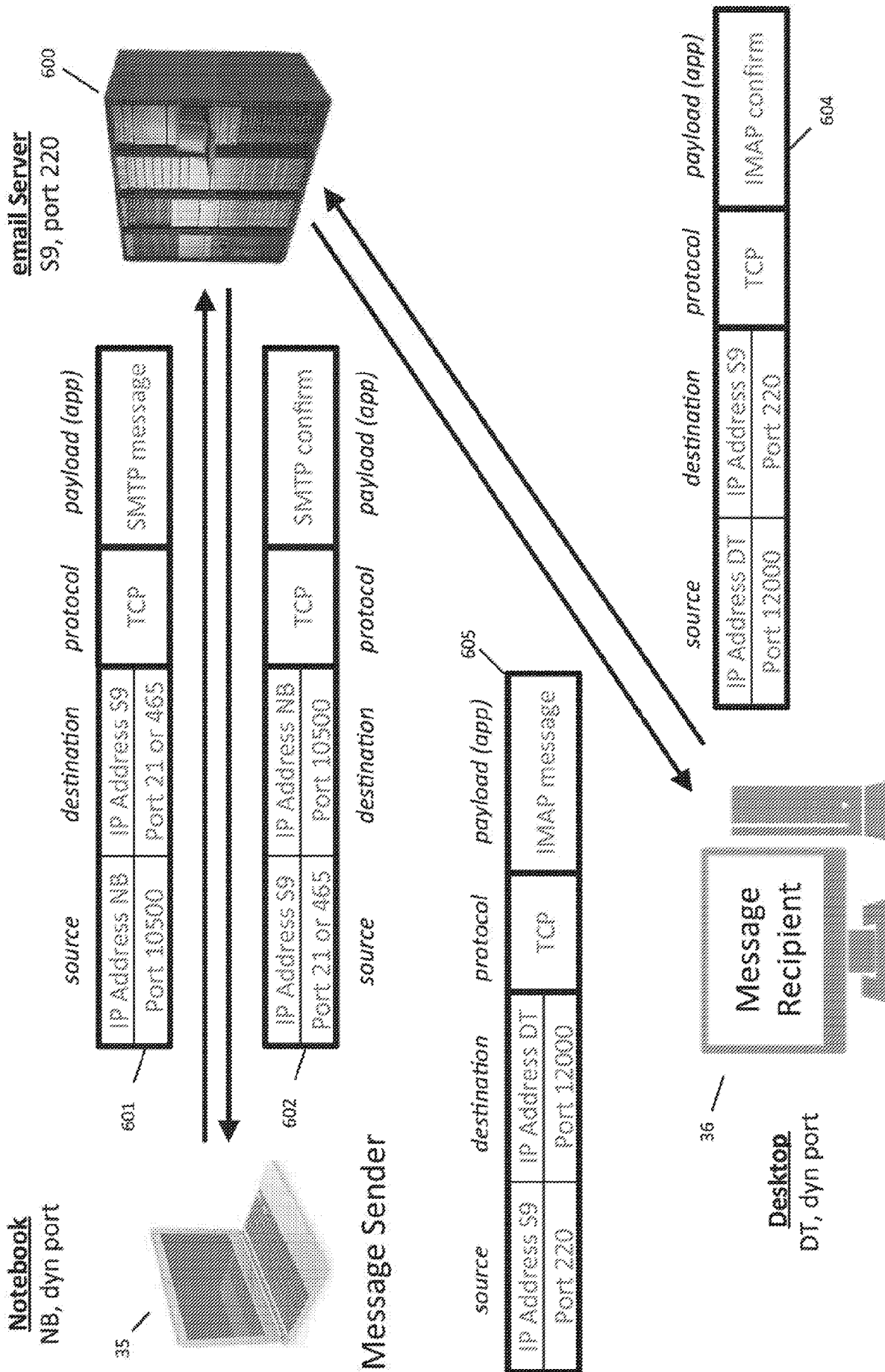


Figure 35B



OSI Layer 7 : Email application via IMAP

Figure 36

Quality of Service (QoS)

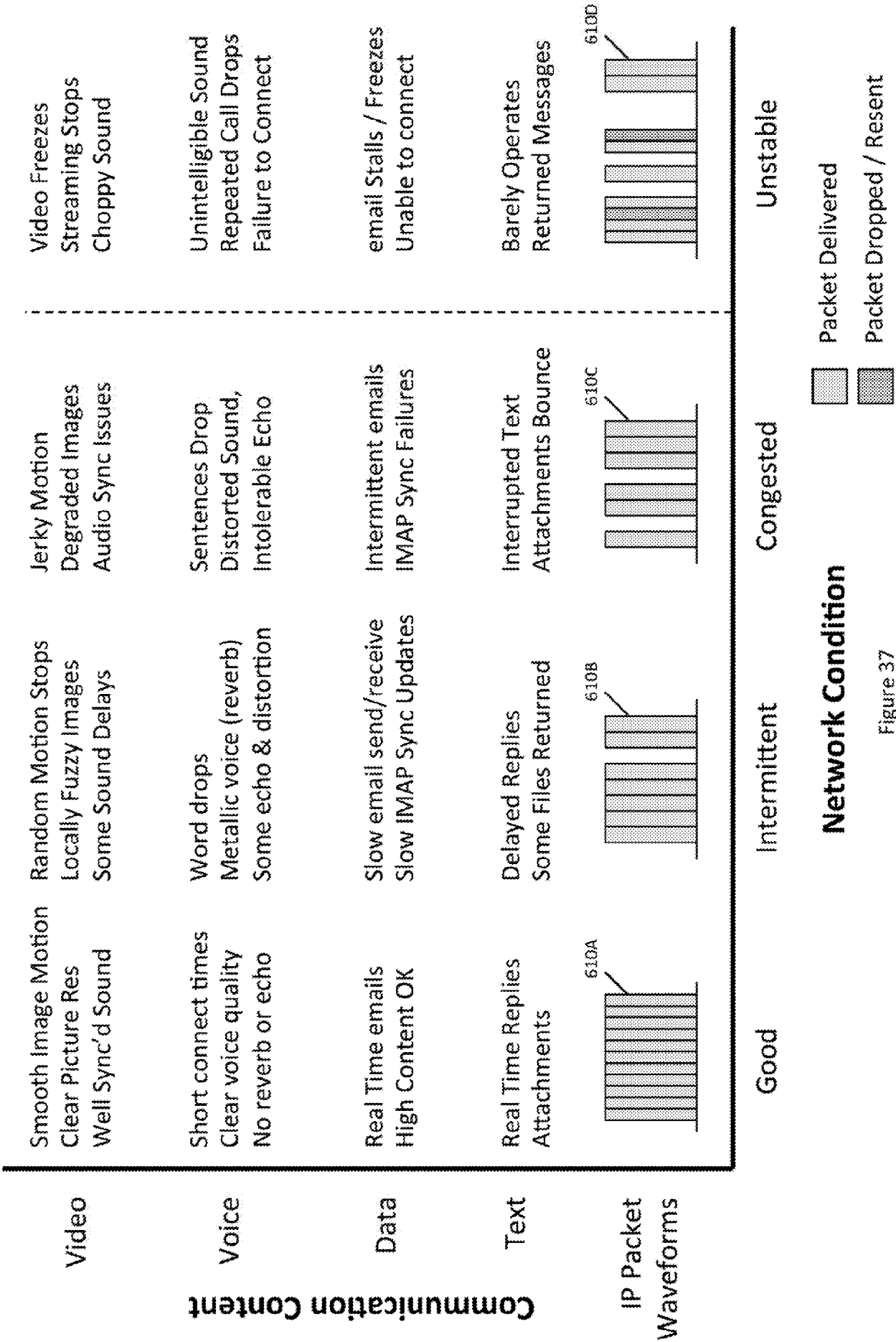


Figure 37

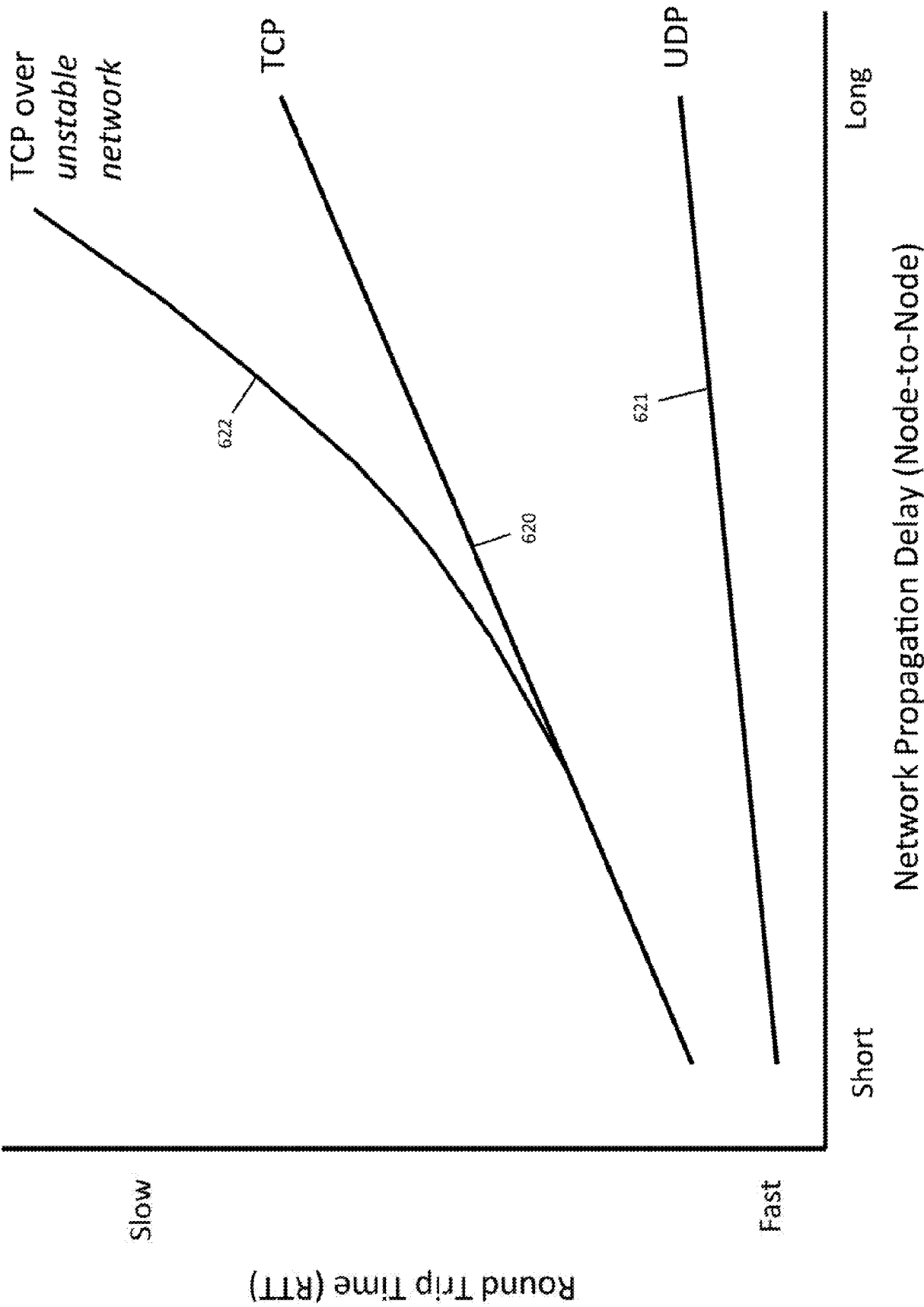


Figure 38

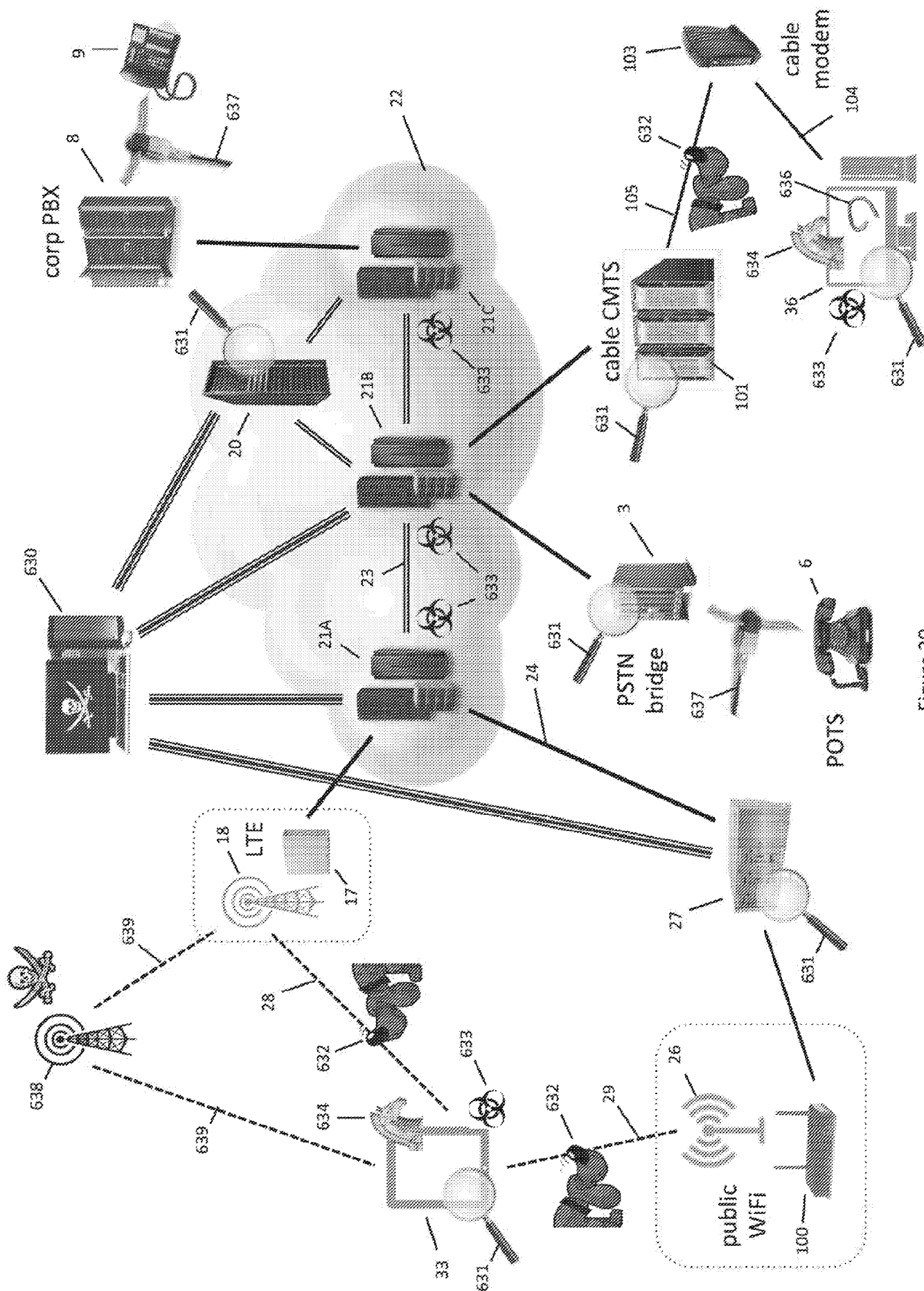


Figure 39

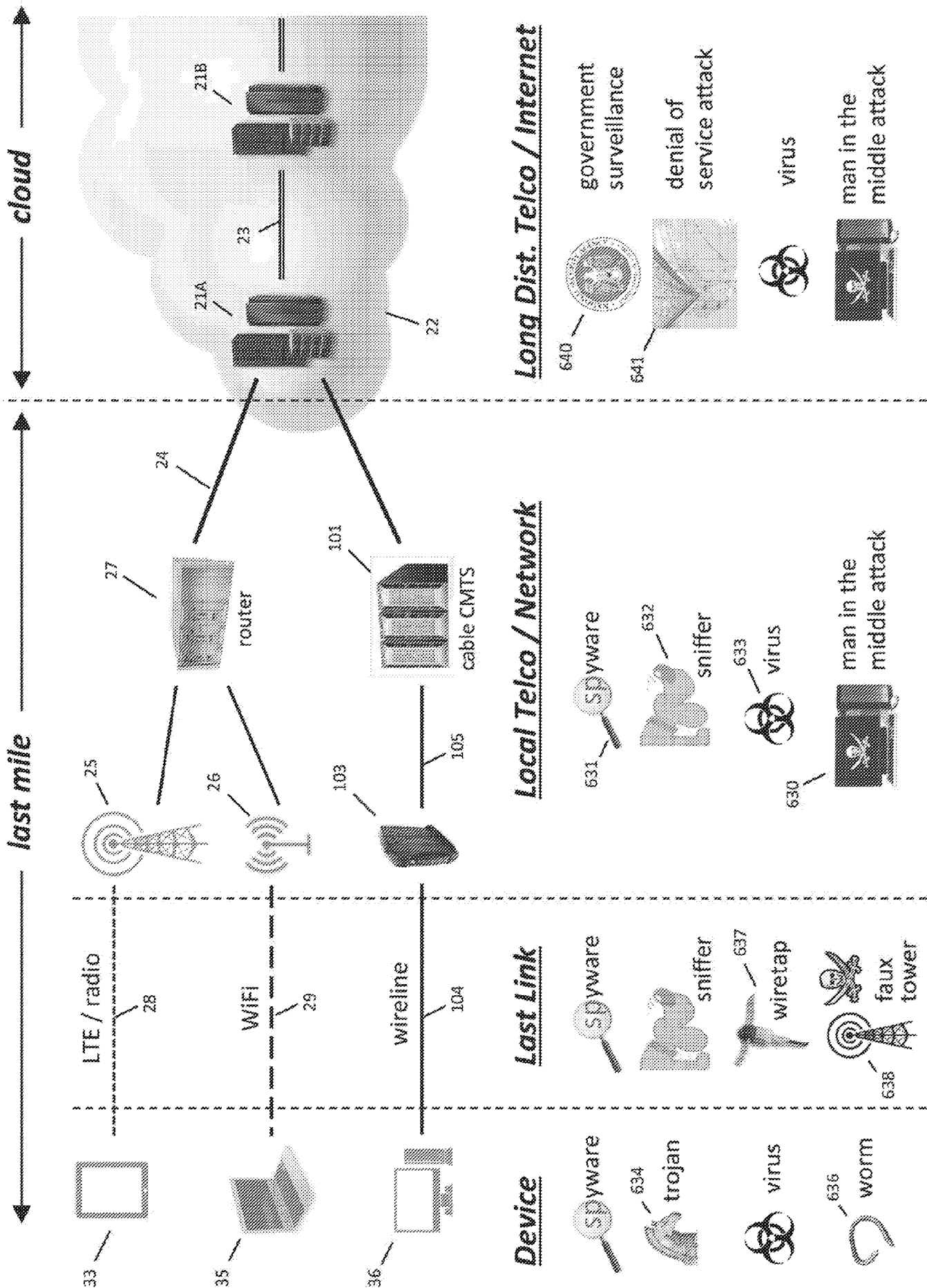


Figure 40

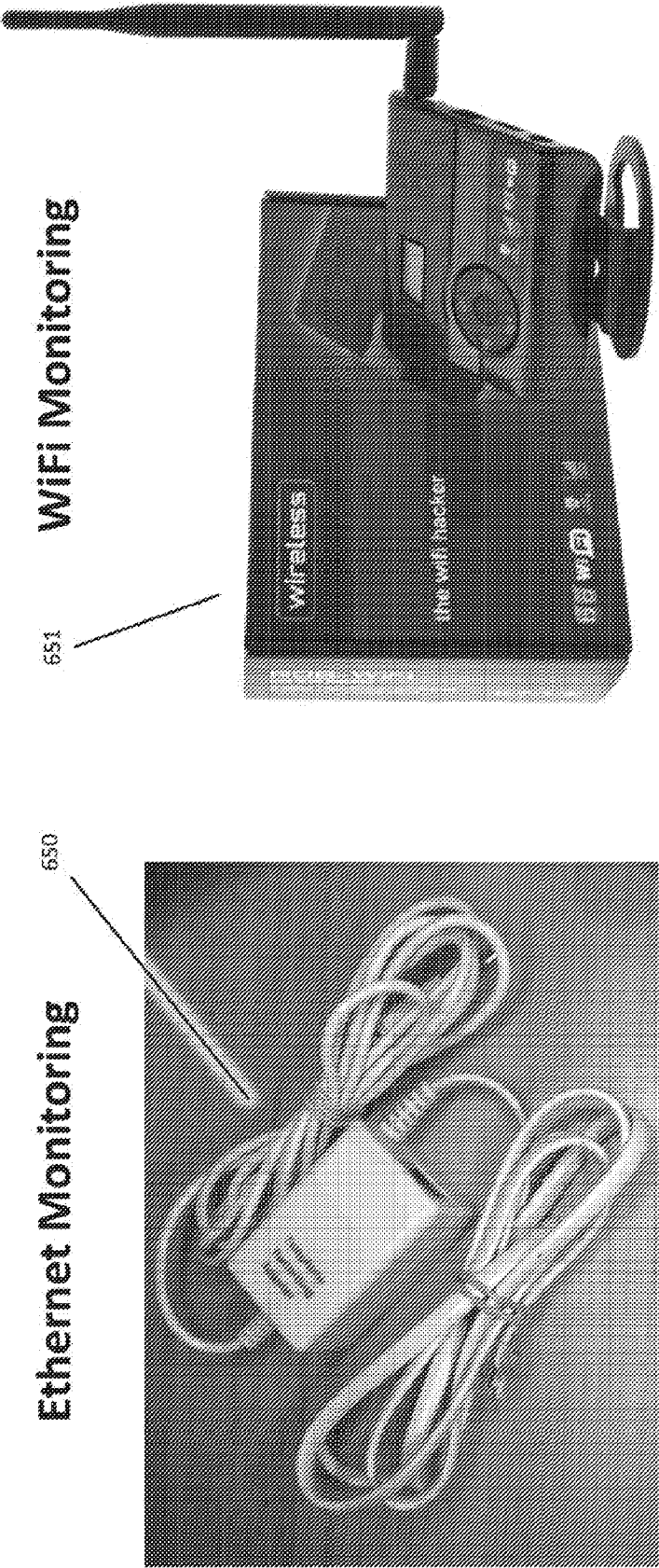


Figure 41A

Cell Phone Monitoring

Cell Phone Monitoring

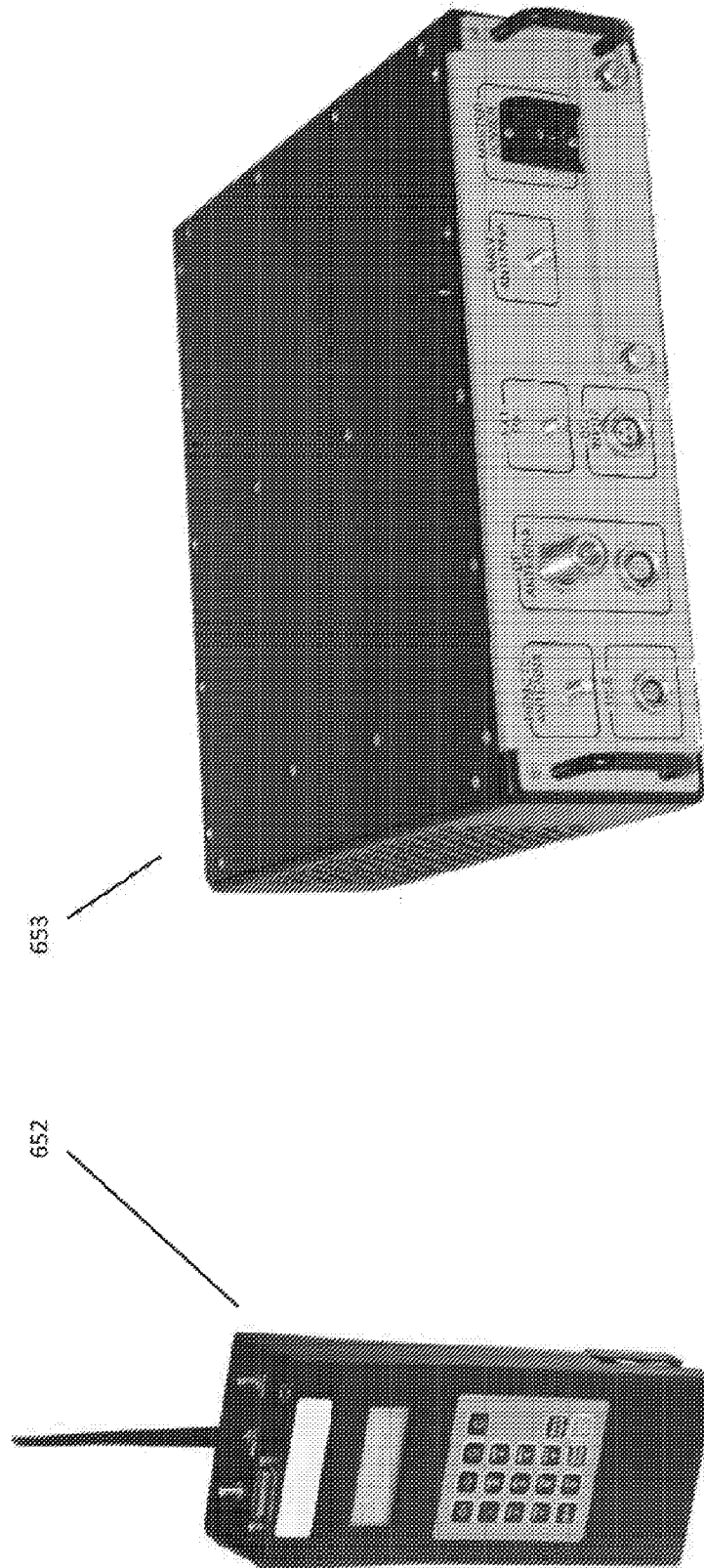


Figure 41B

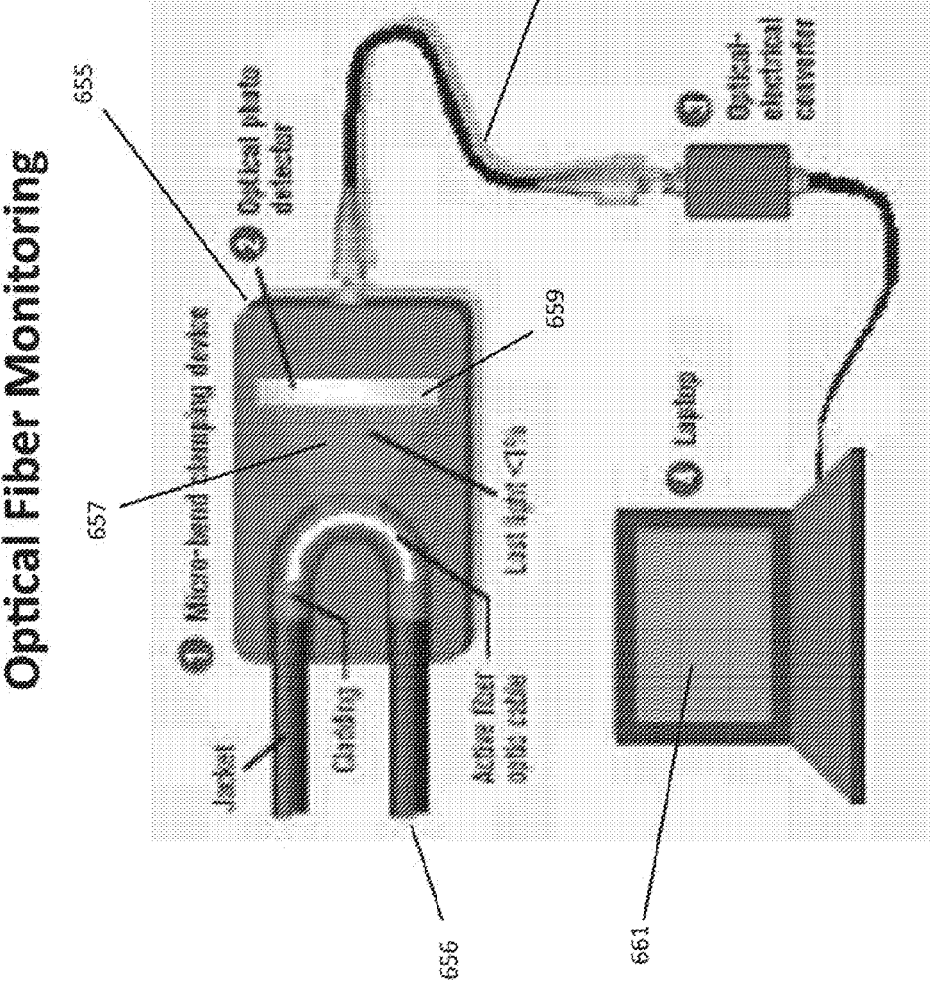


Figure 41C

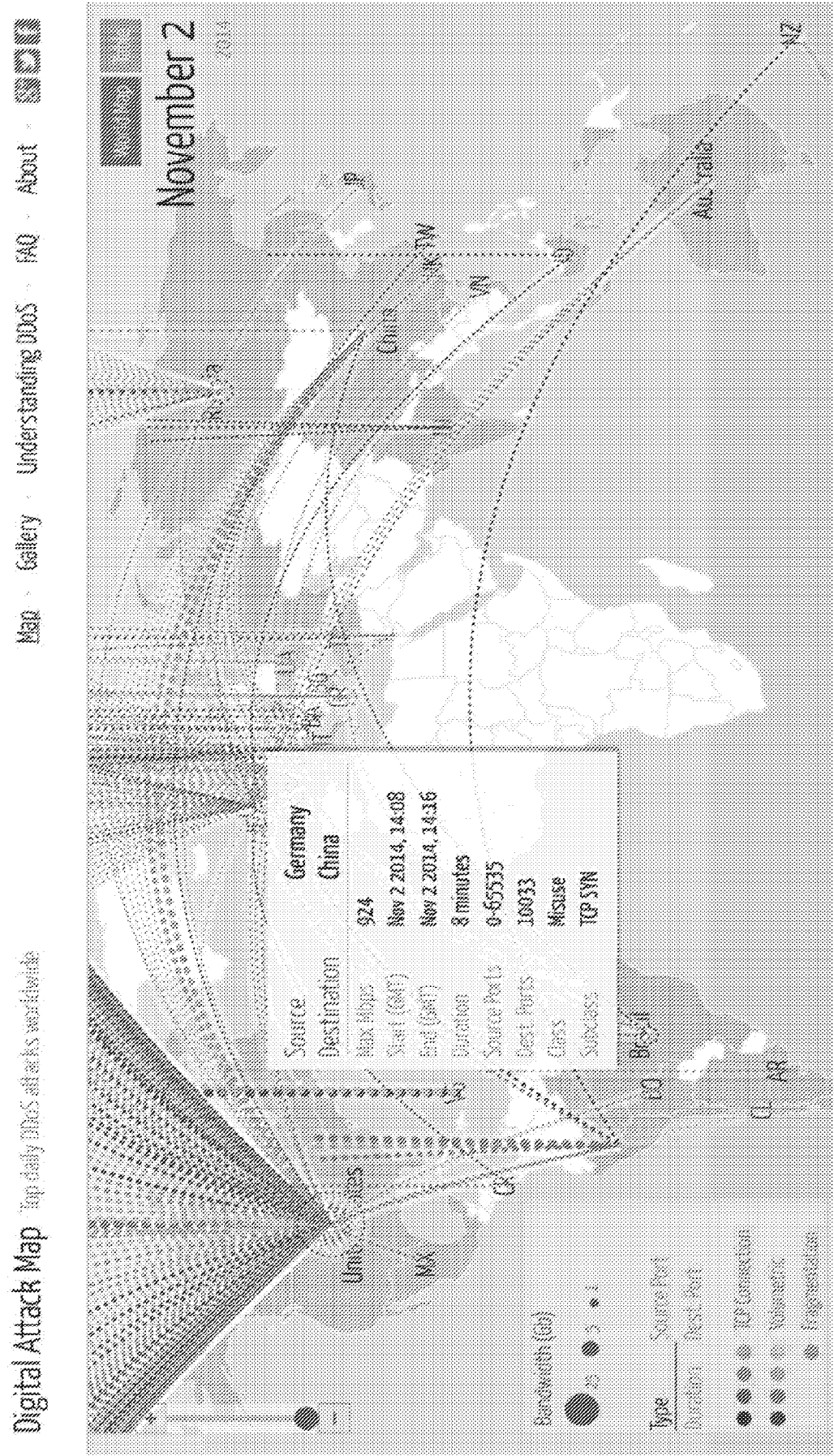


Figure 43

IP Packet Sniffing

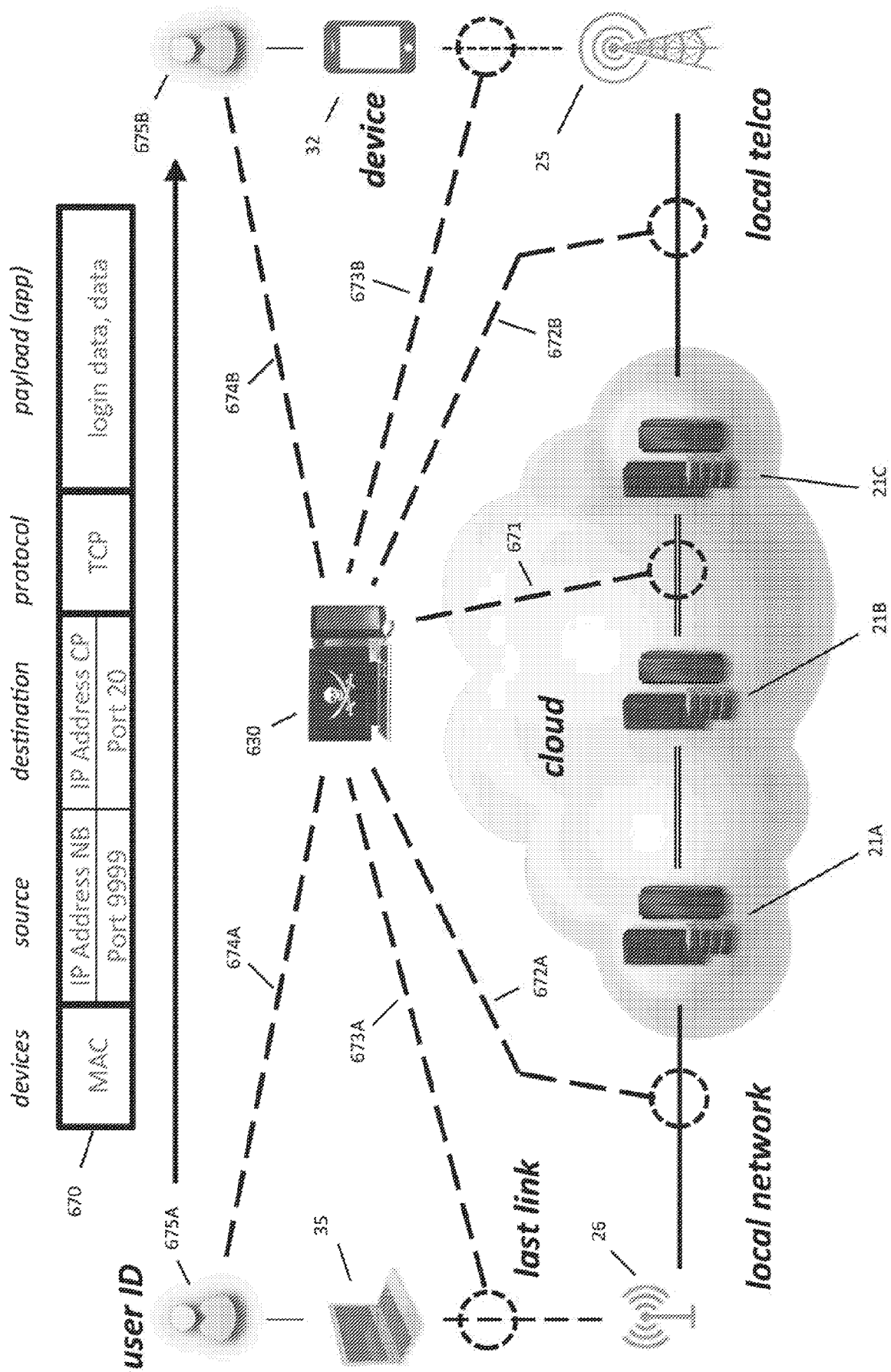
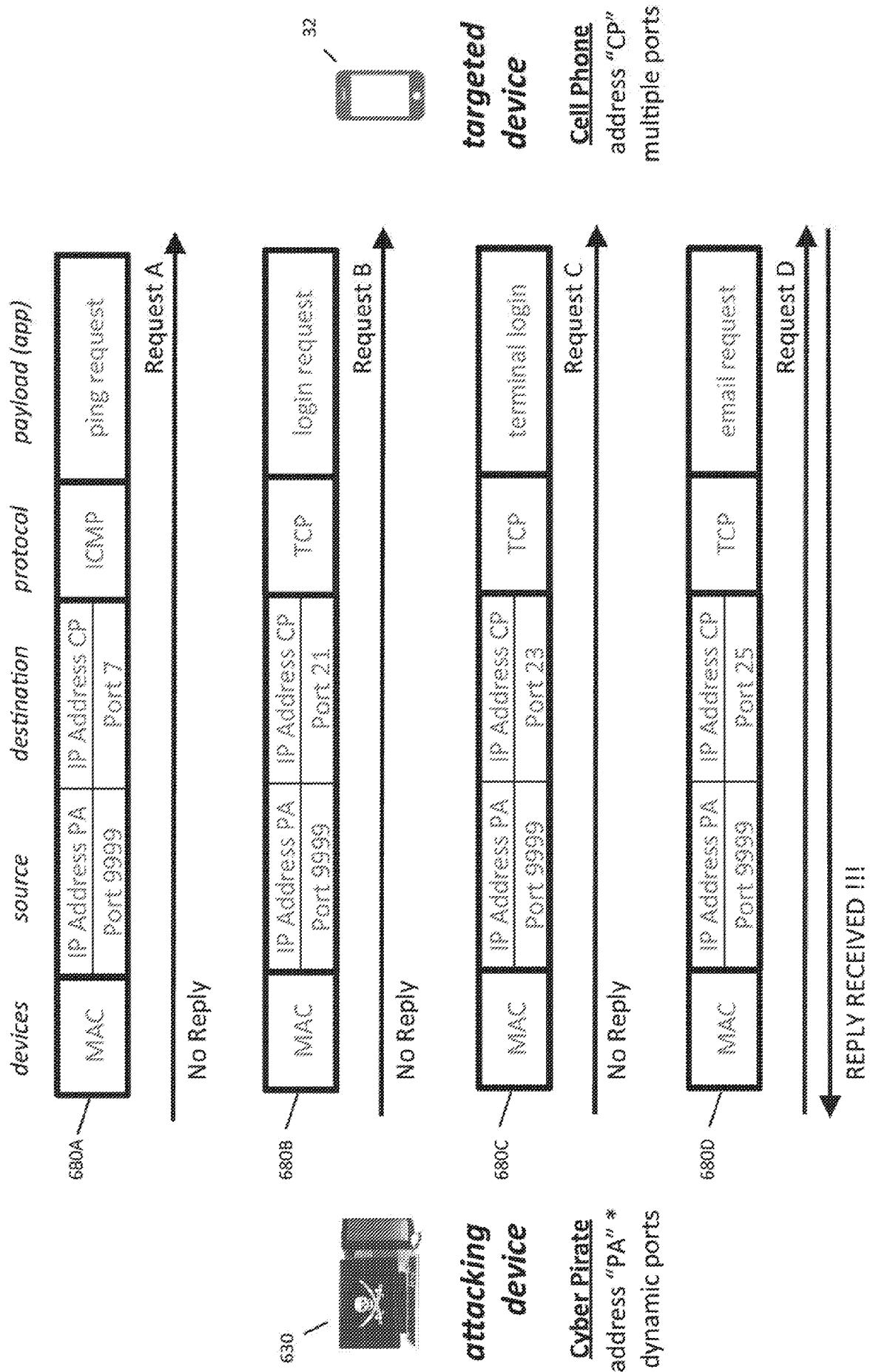


Figure 44

Port Interrogation Based Discovery



* pseudo-address PA disguises real device ID

Figure 45

IP Packet Hijacking

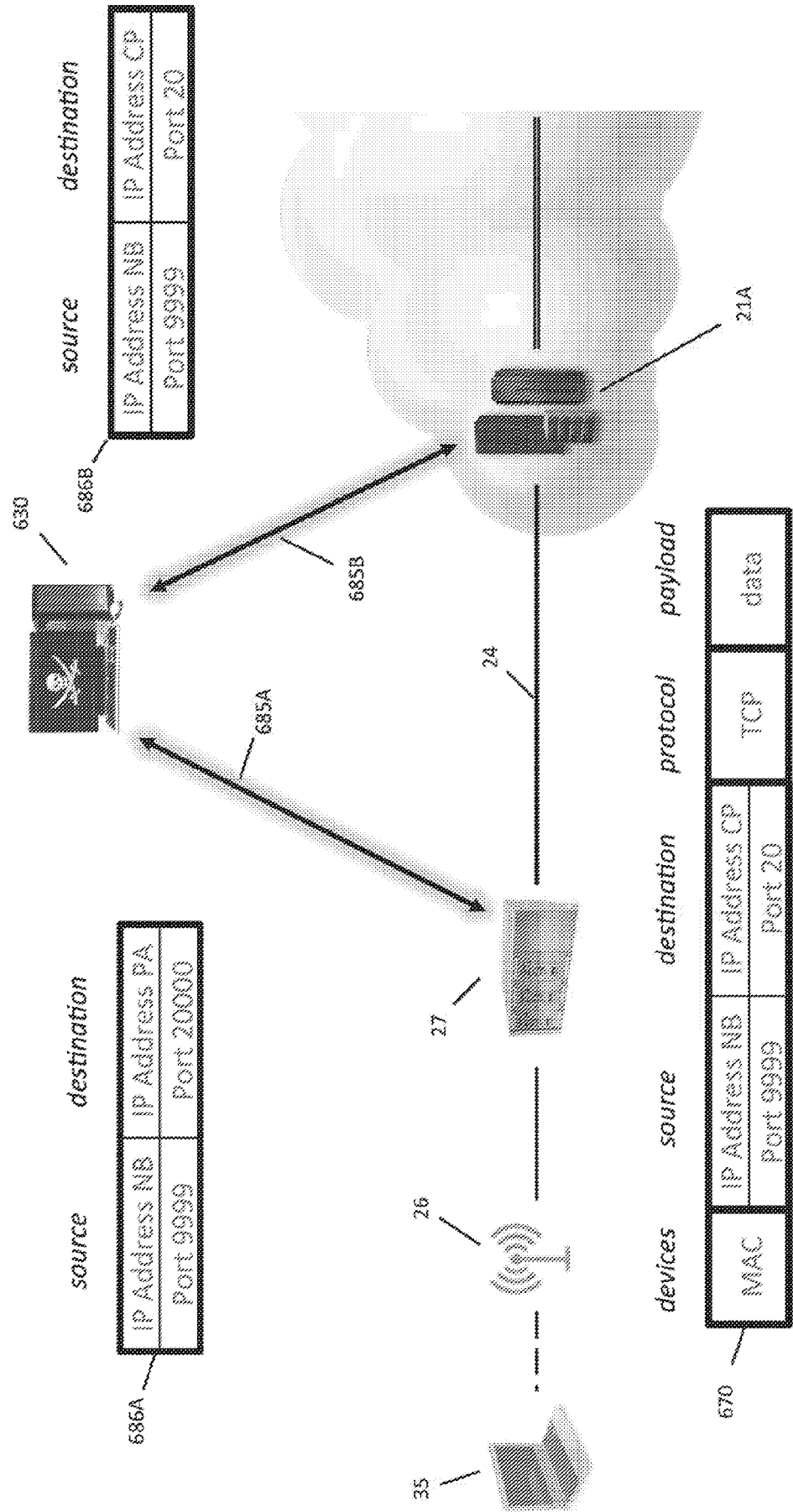


Figure 46

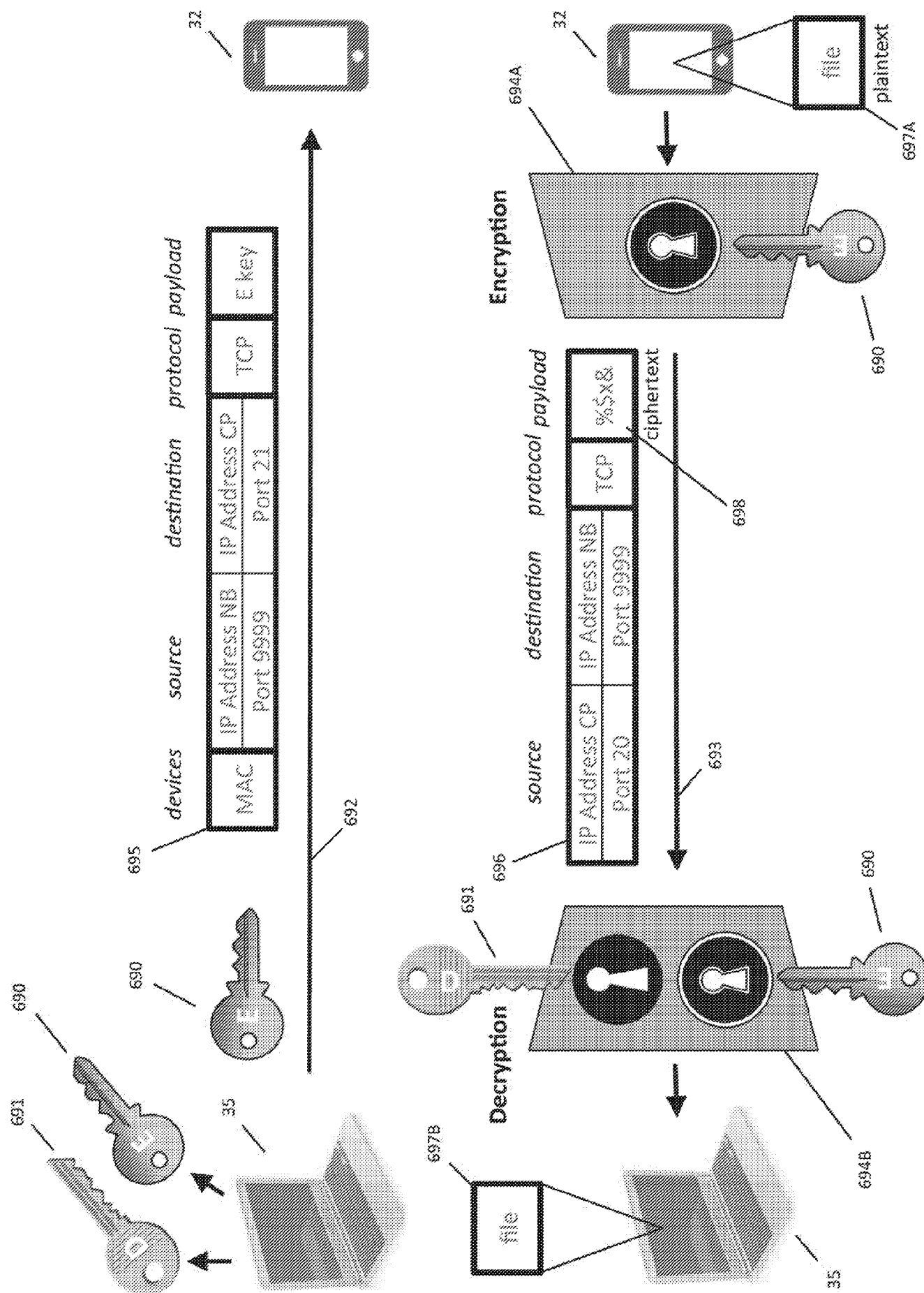


Figure 47

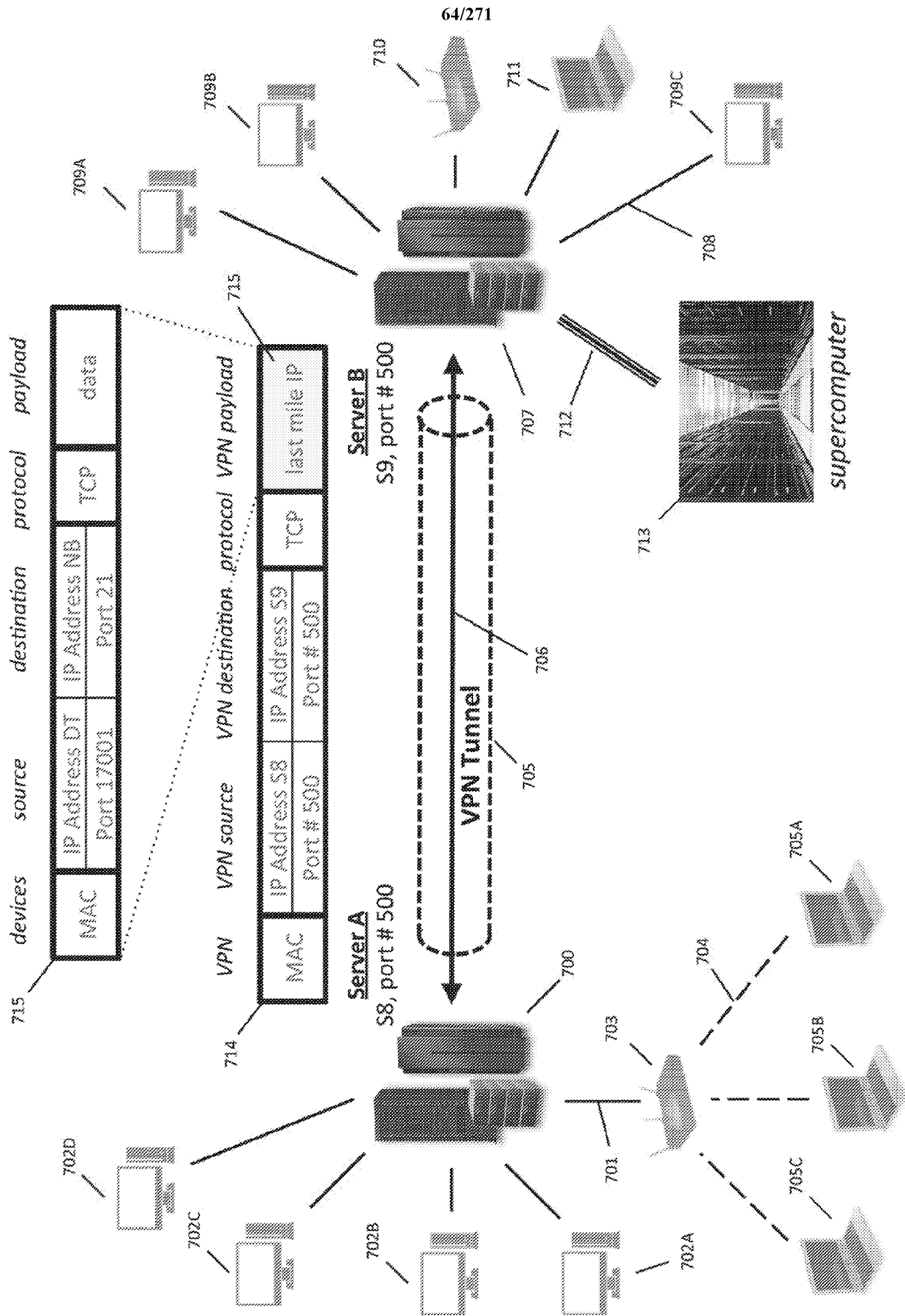


Figure 48A

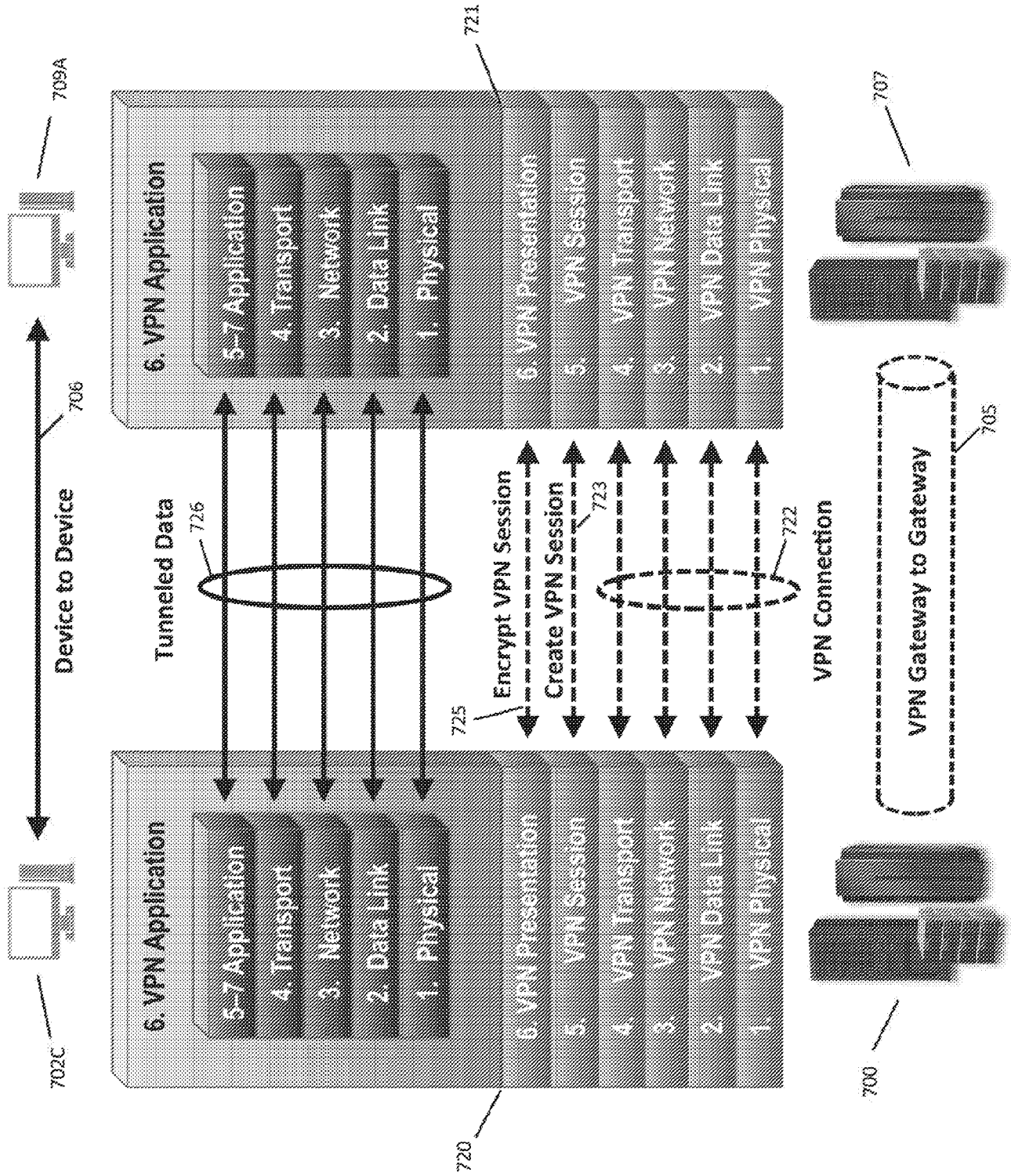


Figure 48B

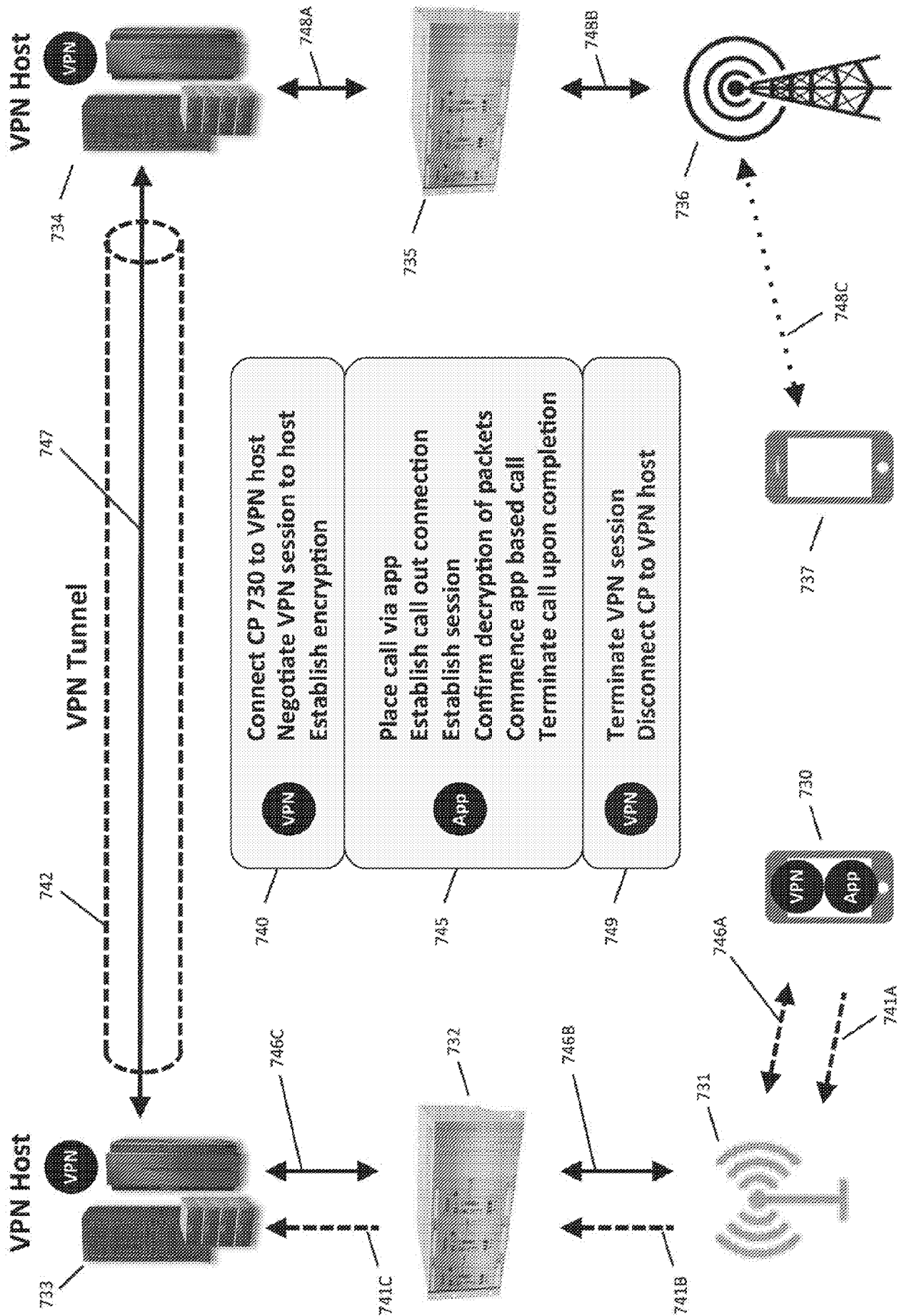


Figure 48C

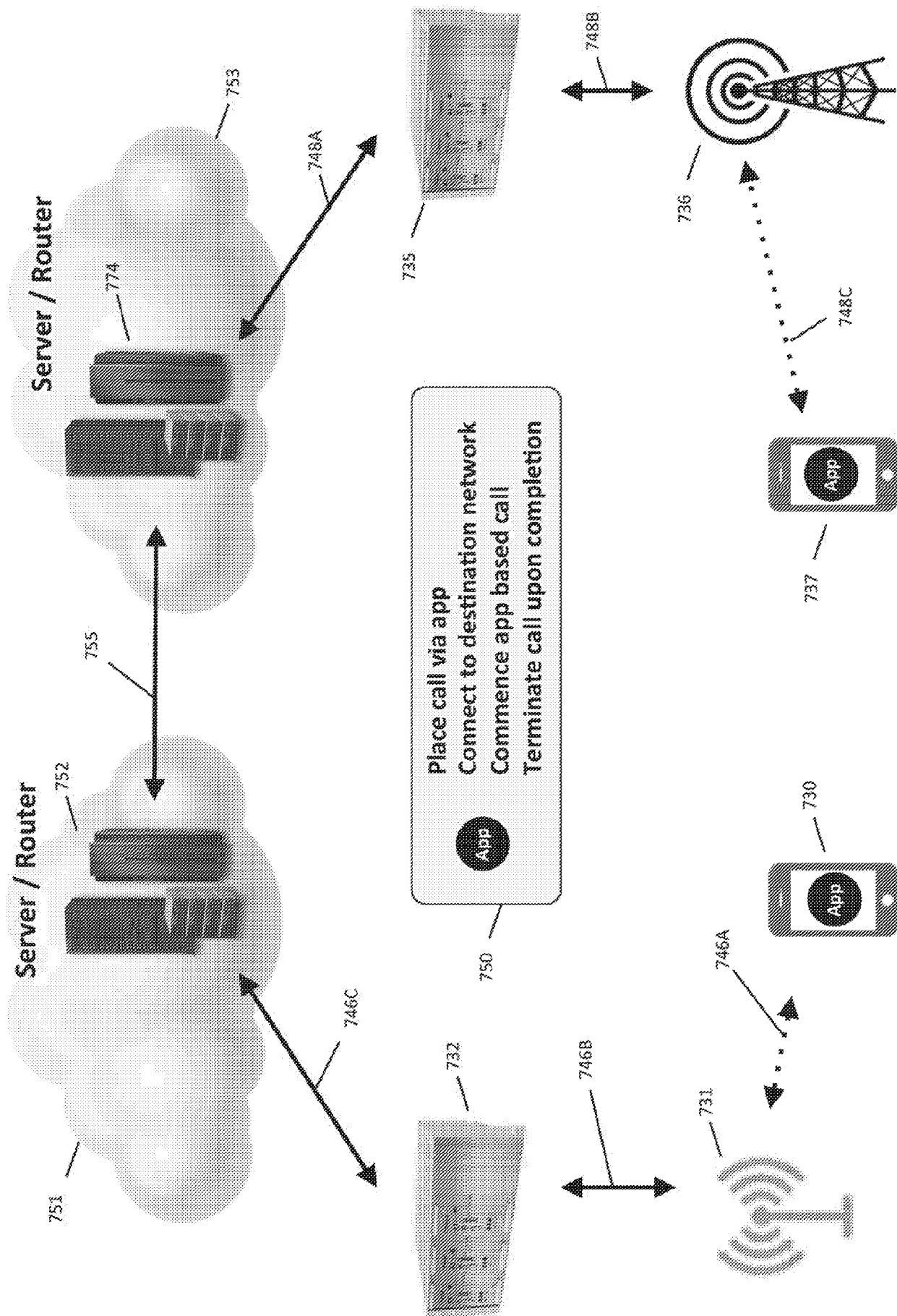
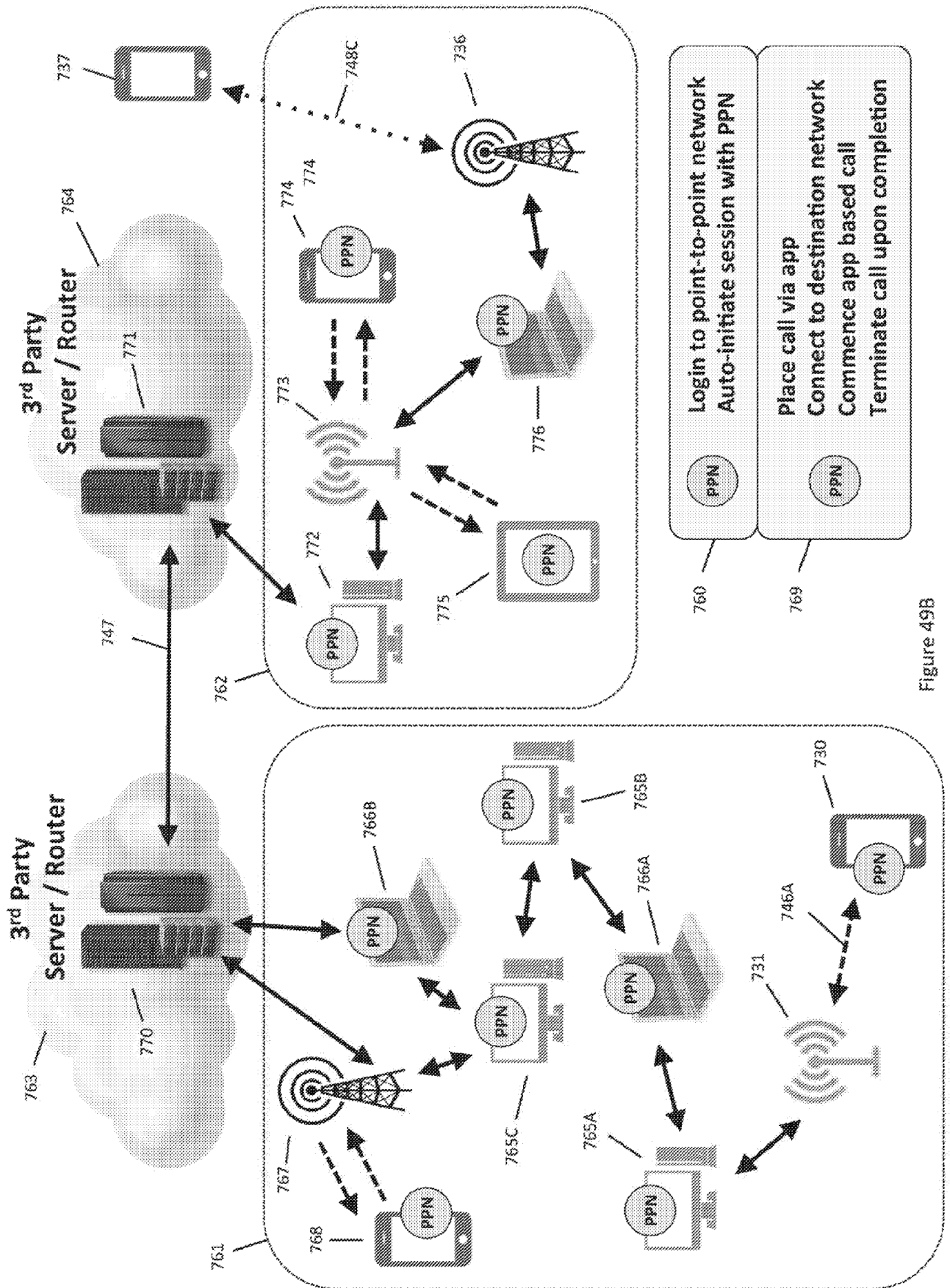


Figure 49A



09
7
6
5
4
3
2
1

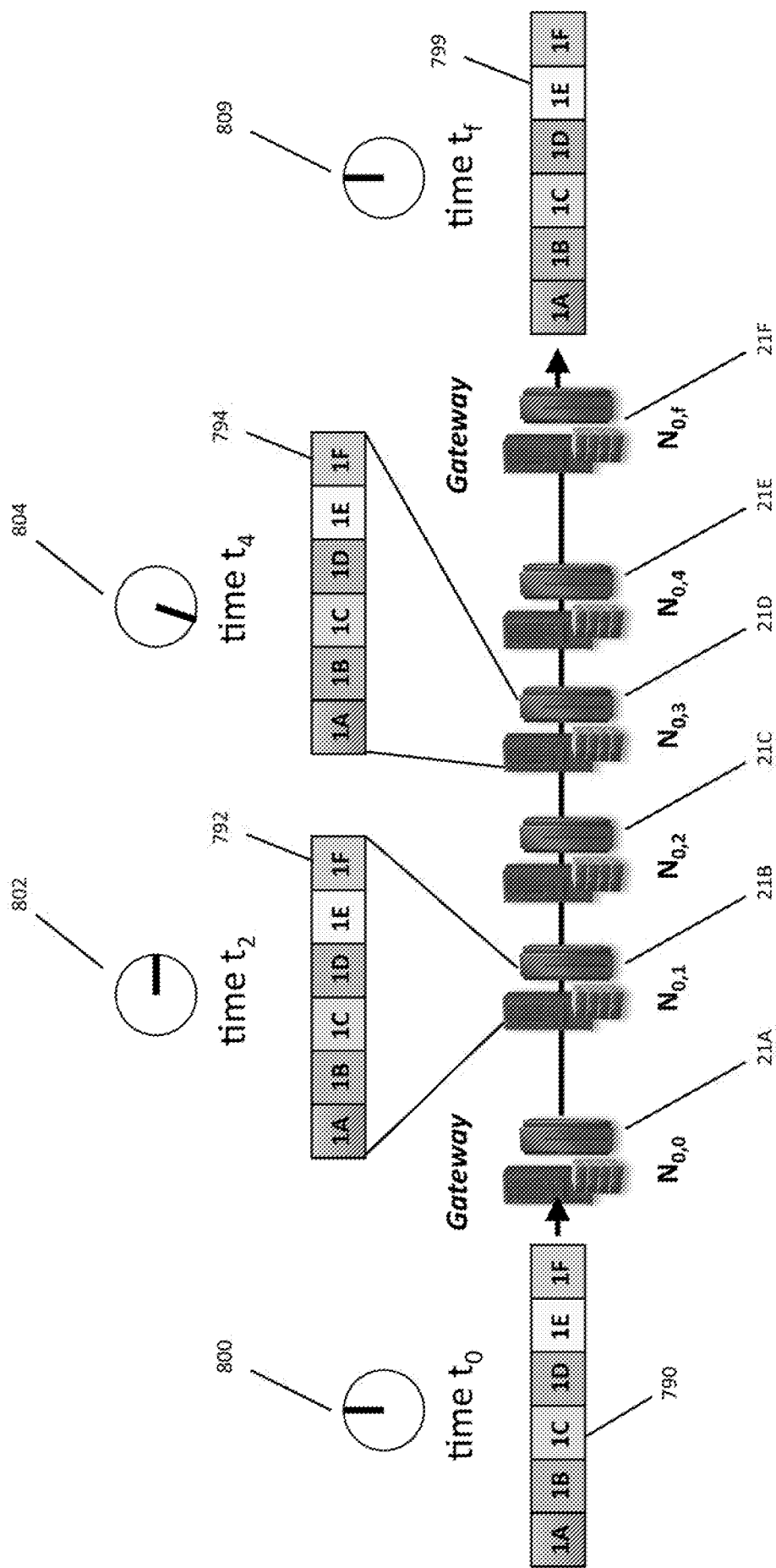


Figure 50

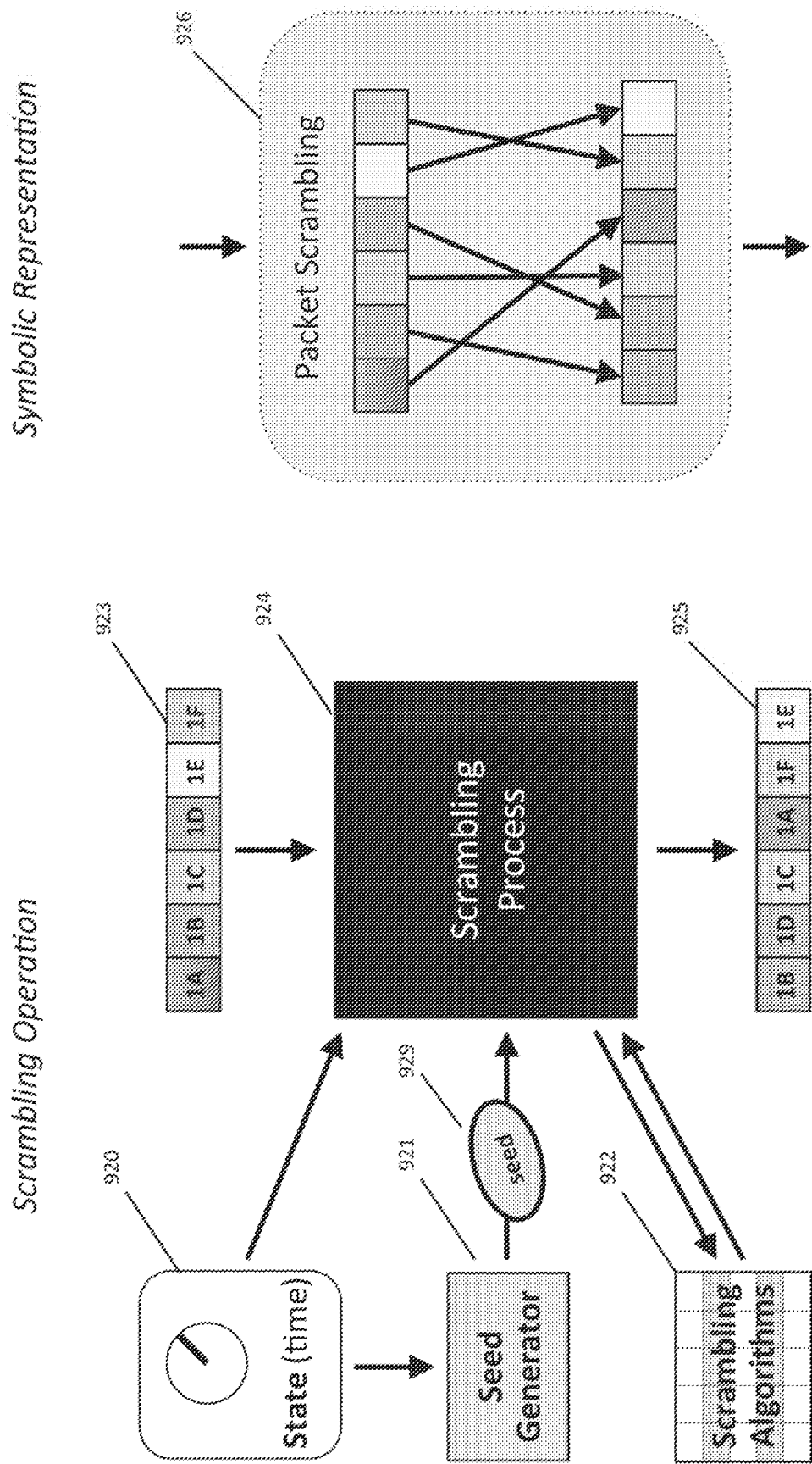


Figure 51A

Packet Unscrambling

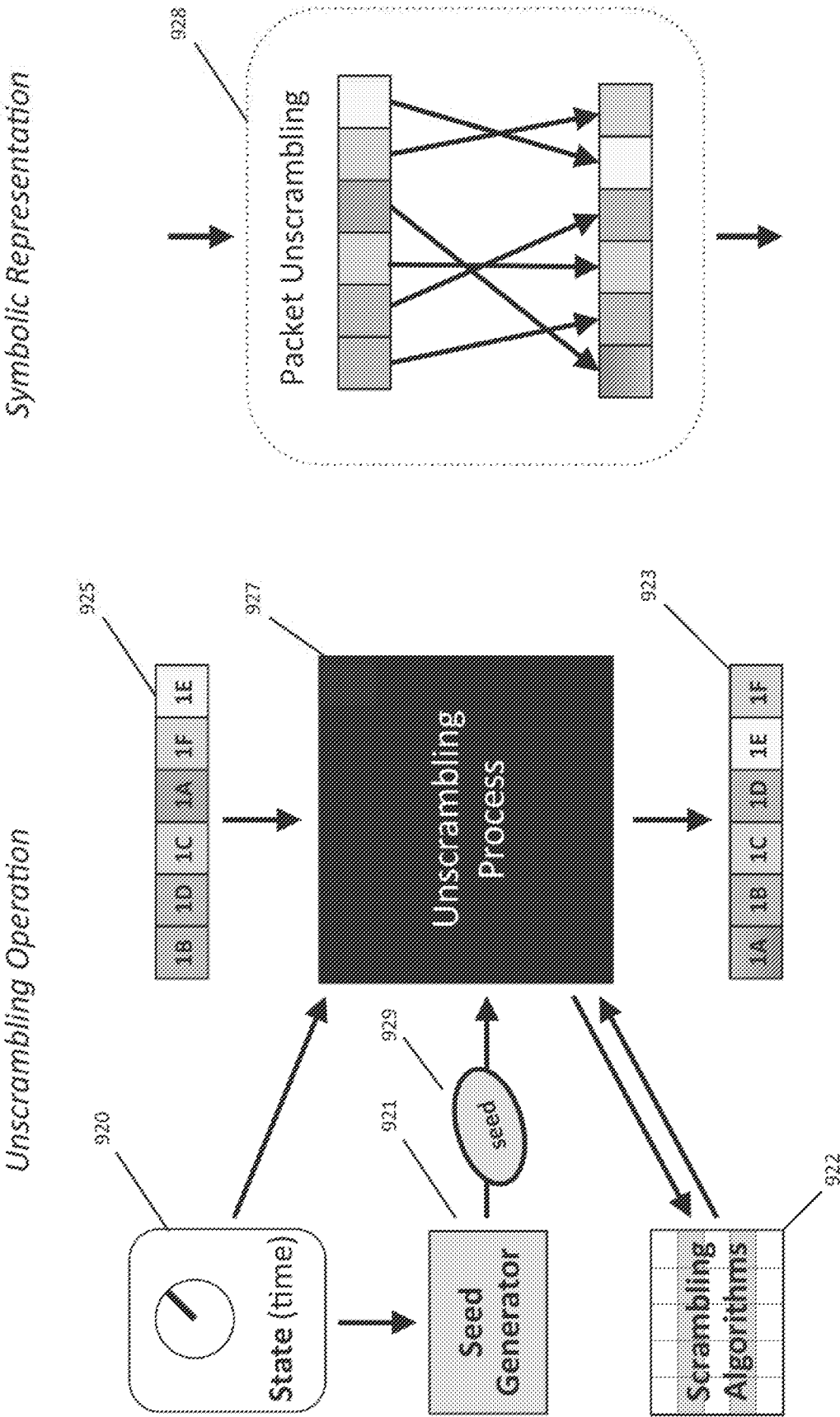
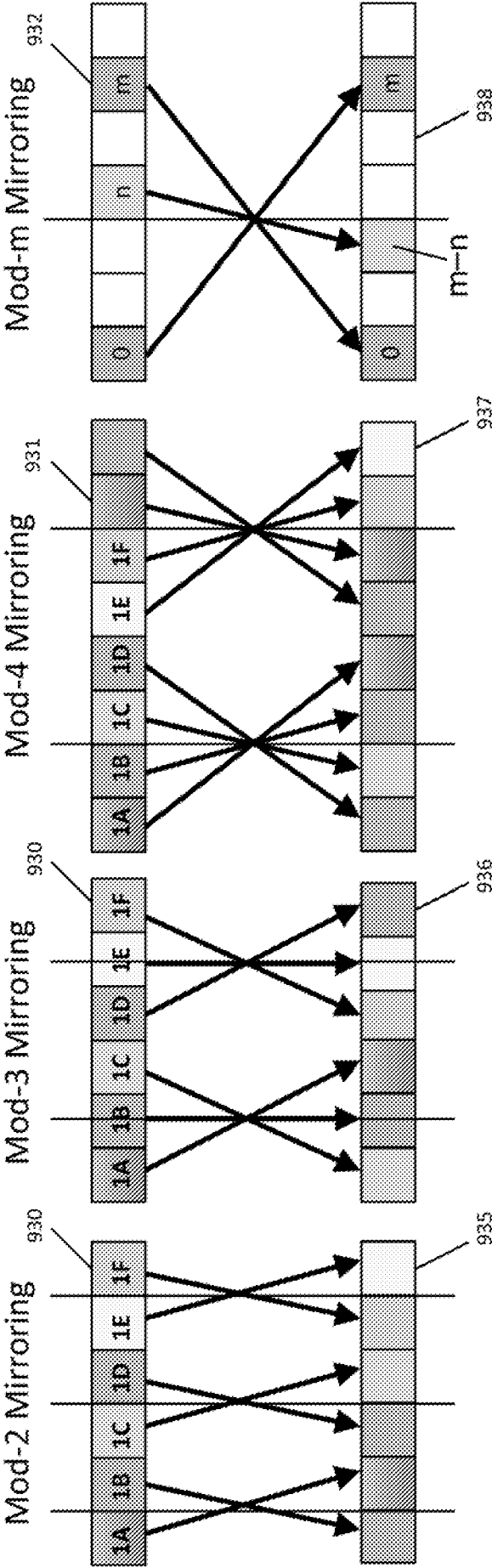


Figure 518



Maximum Phase Shift

4-Frame Phase Shift

2-Frame Phase Shift

1-Frame Phase Shift

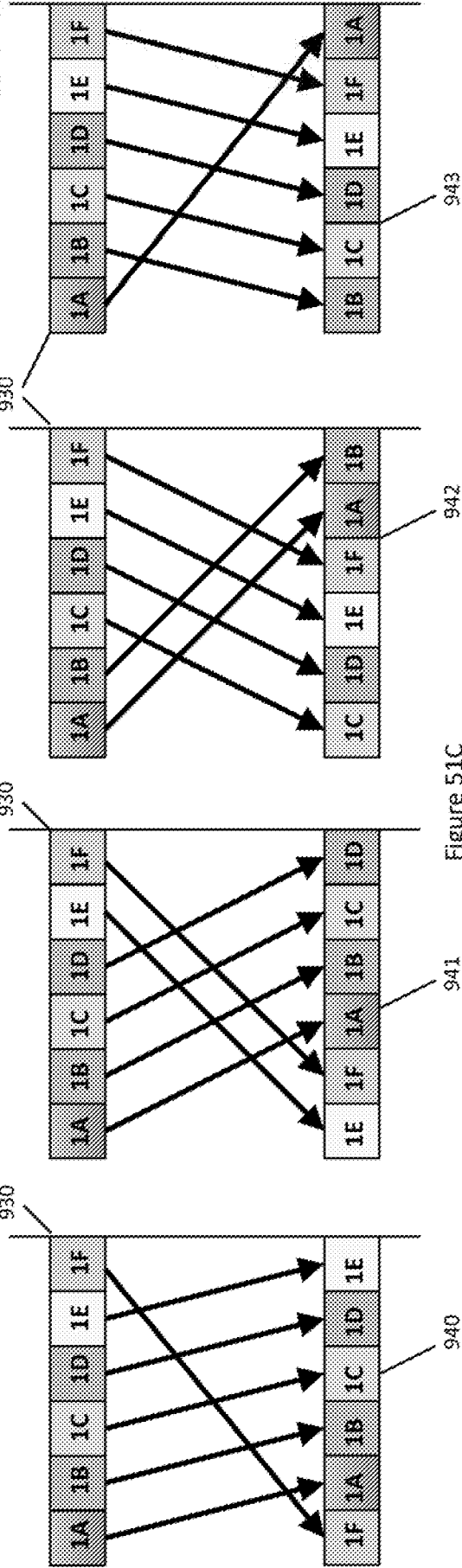


Figure 51C

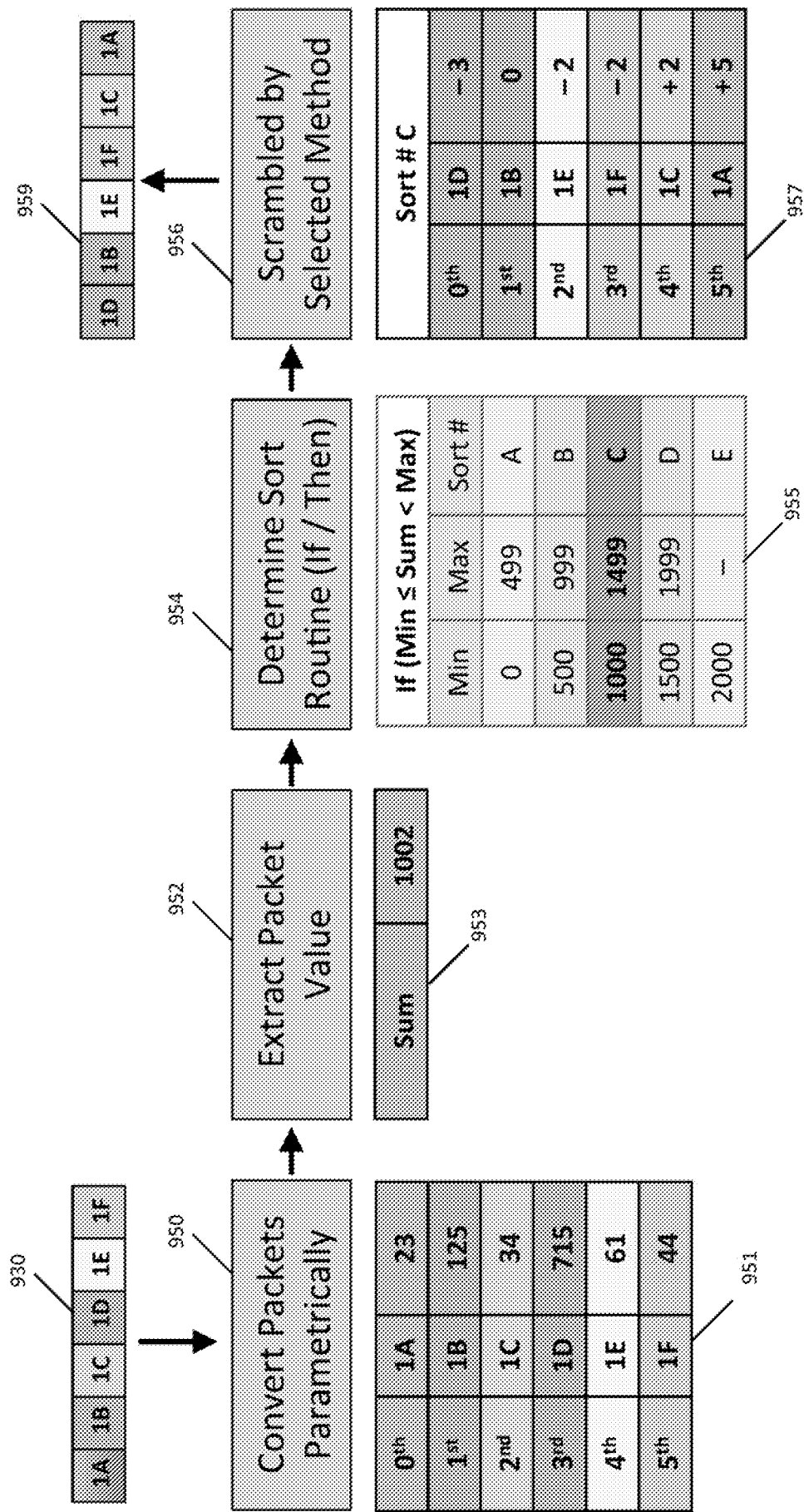


Figure 51D

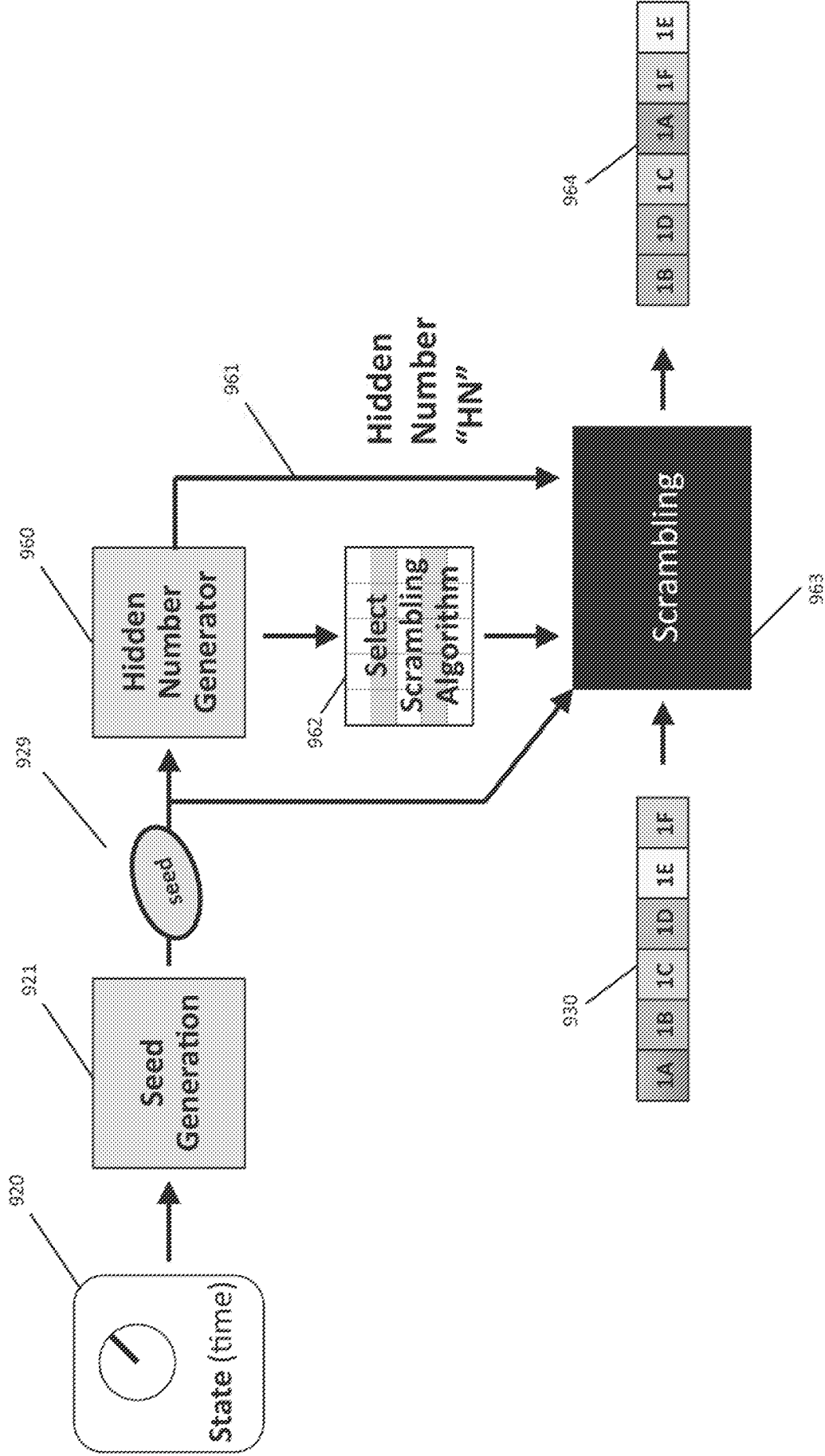


Figure 51E

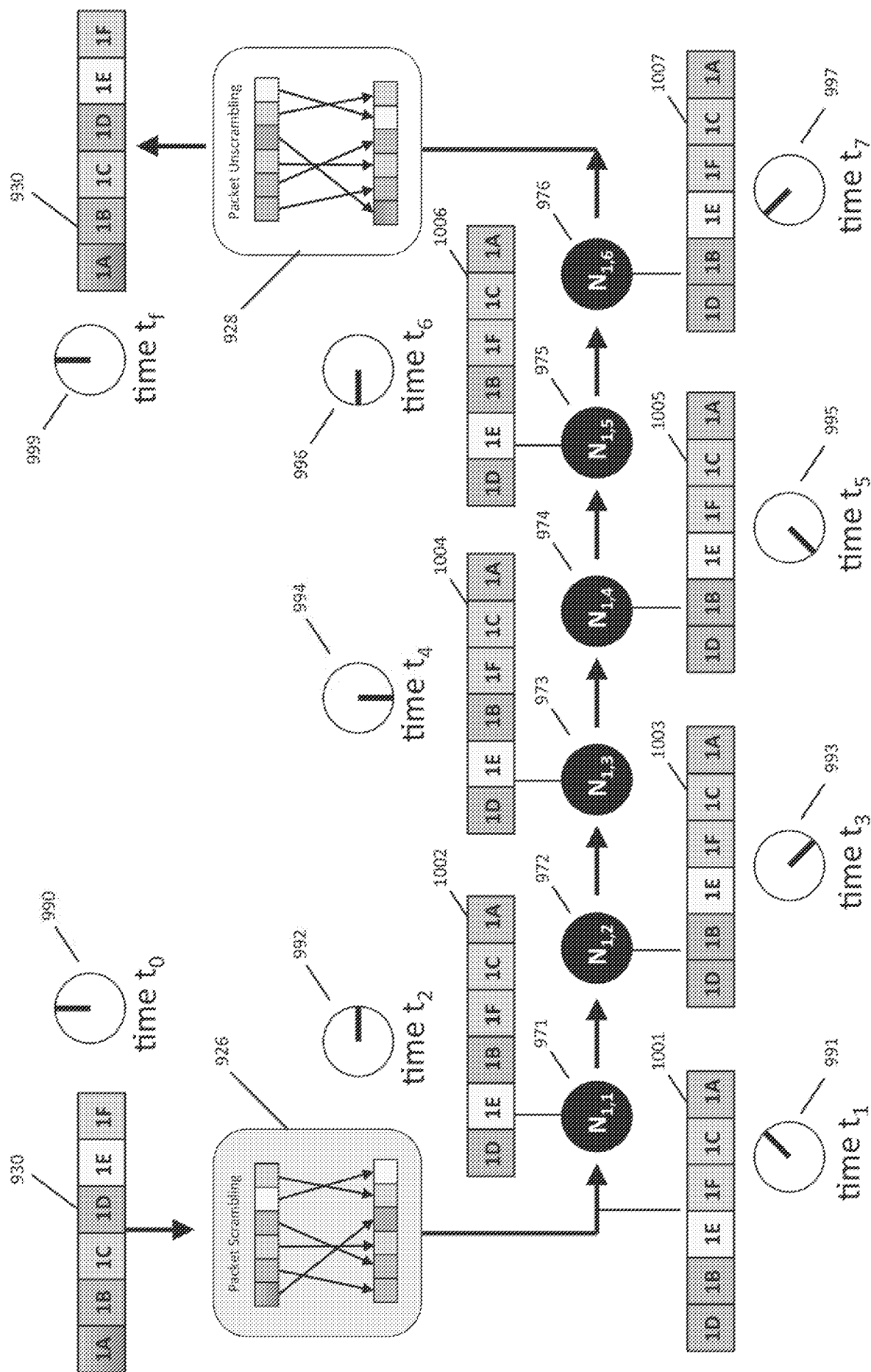


Figure 51F

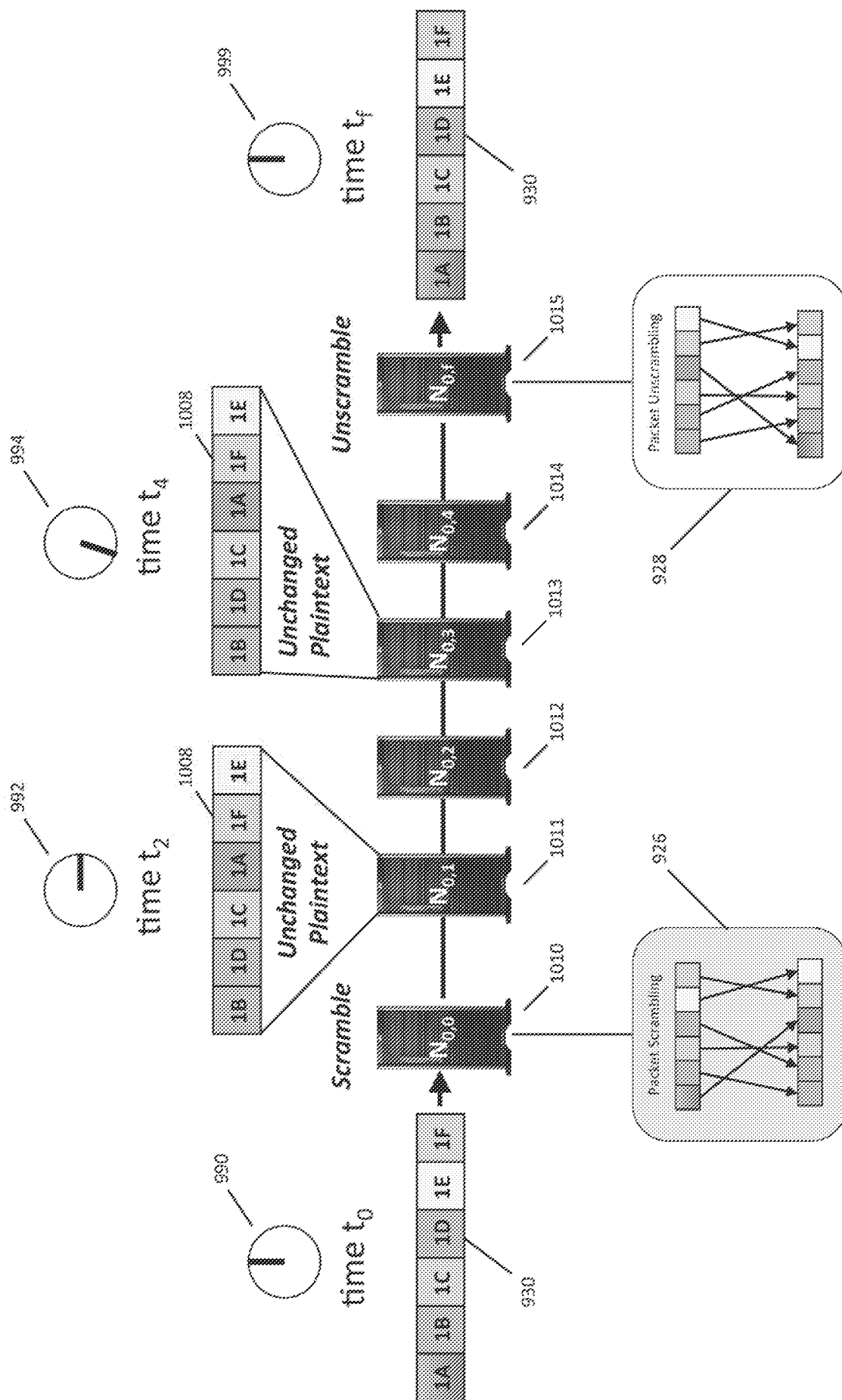


Figure 52

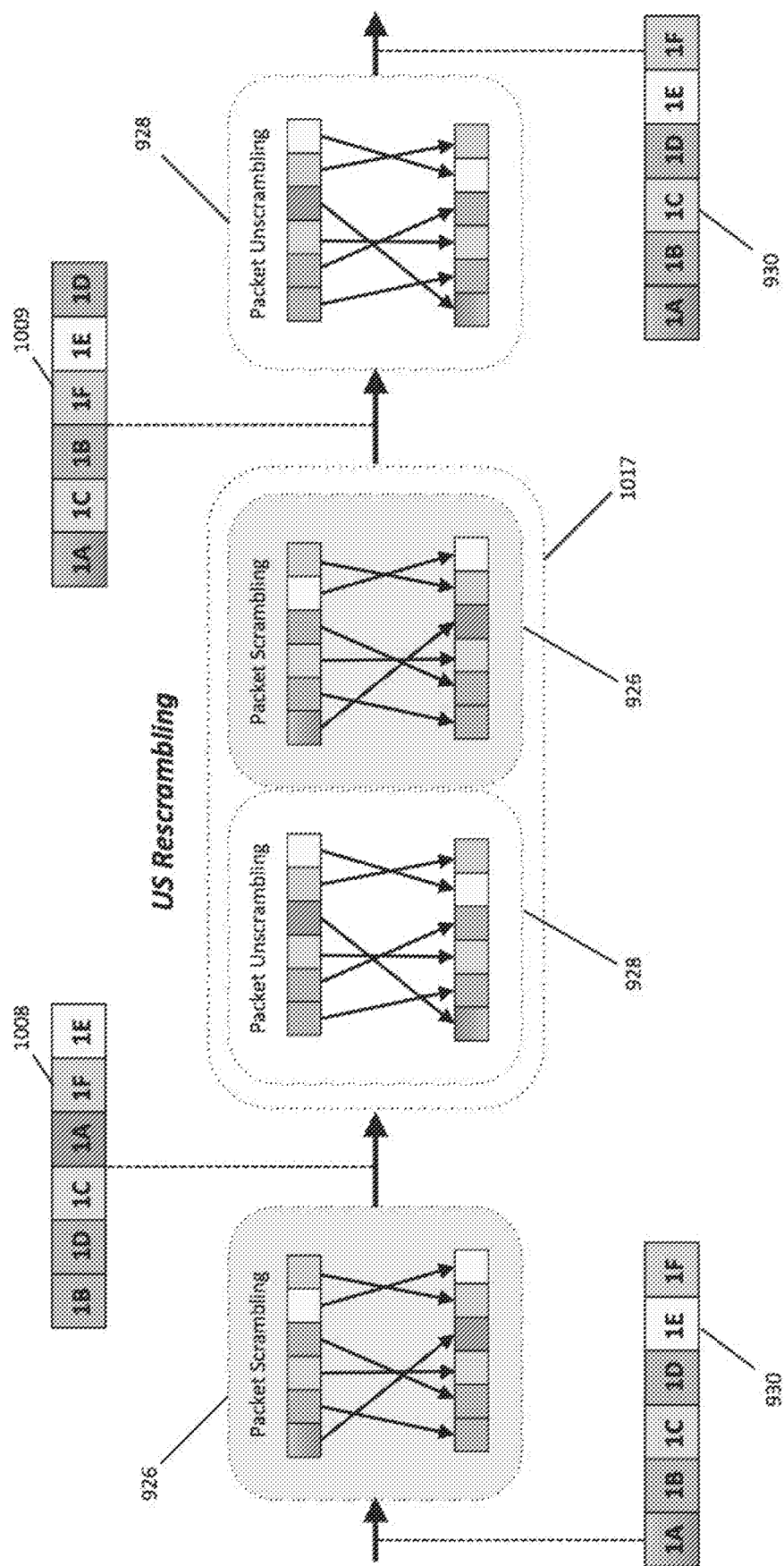


Figure S3

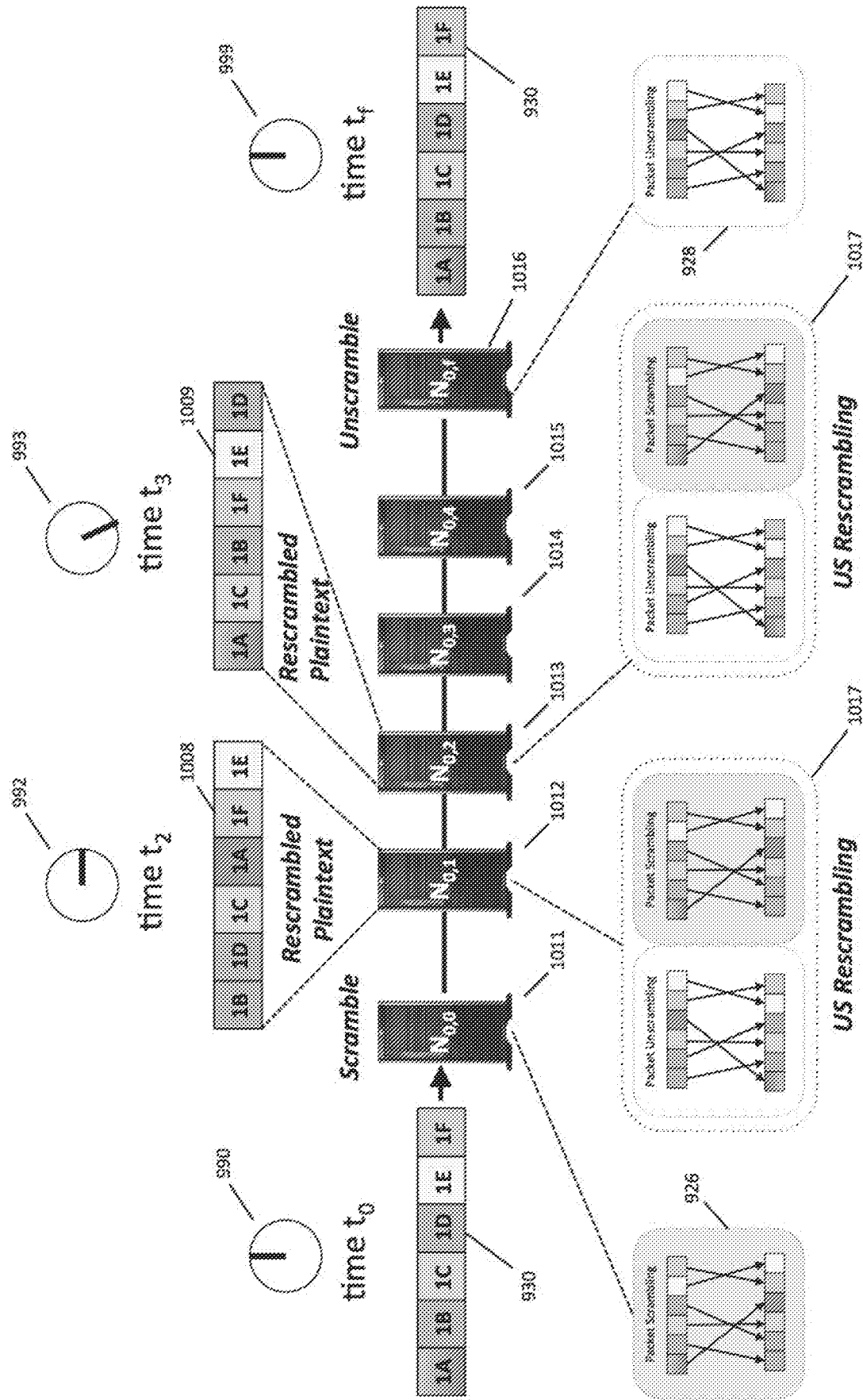


Figure S4

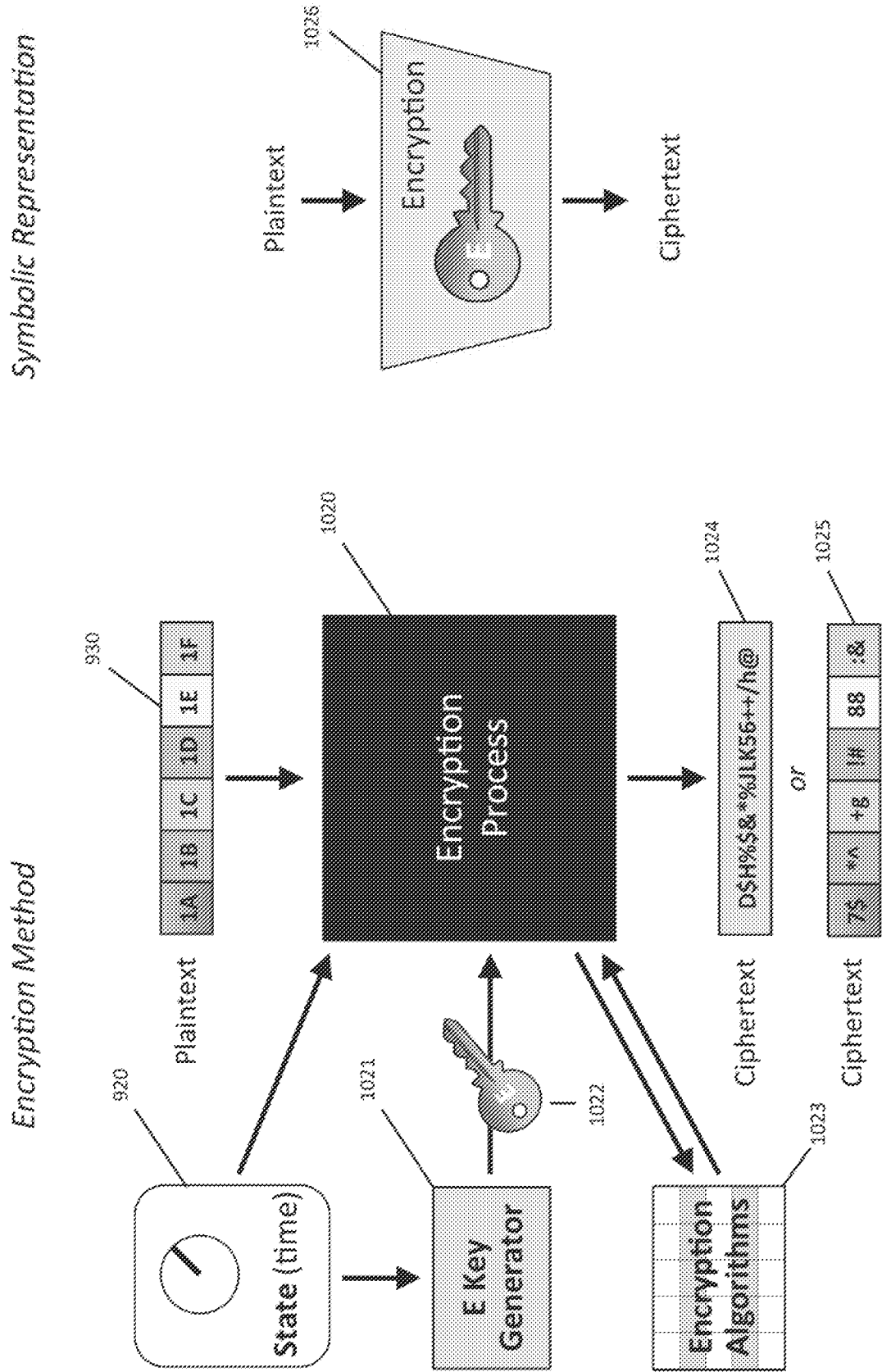


Figure 55A

Packet Decryption

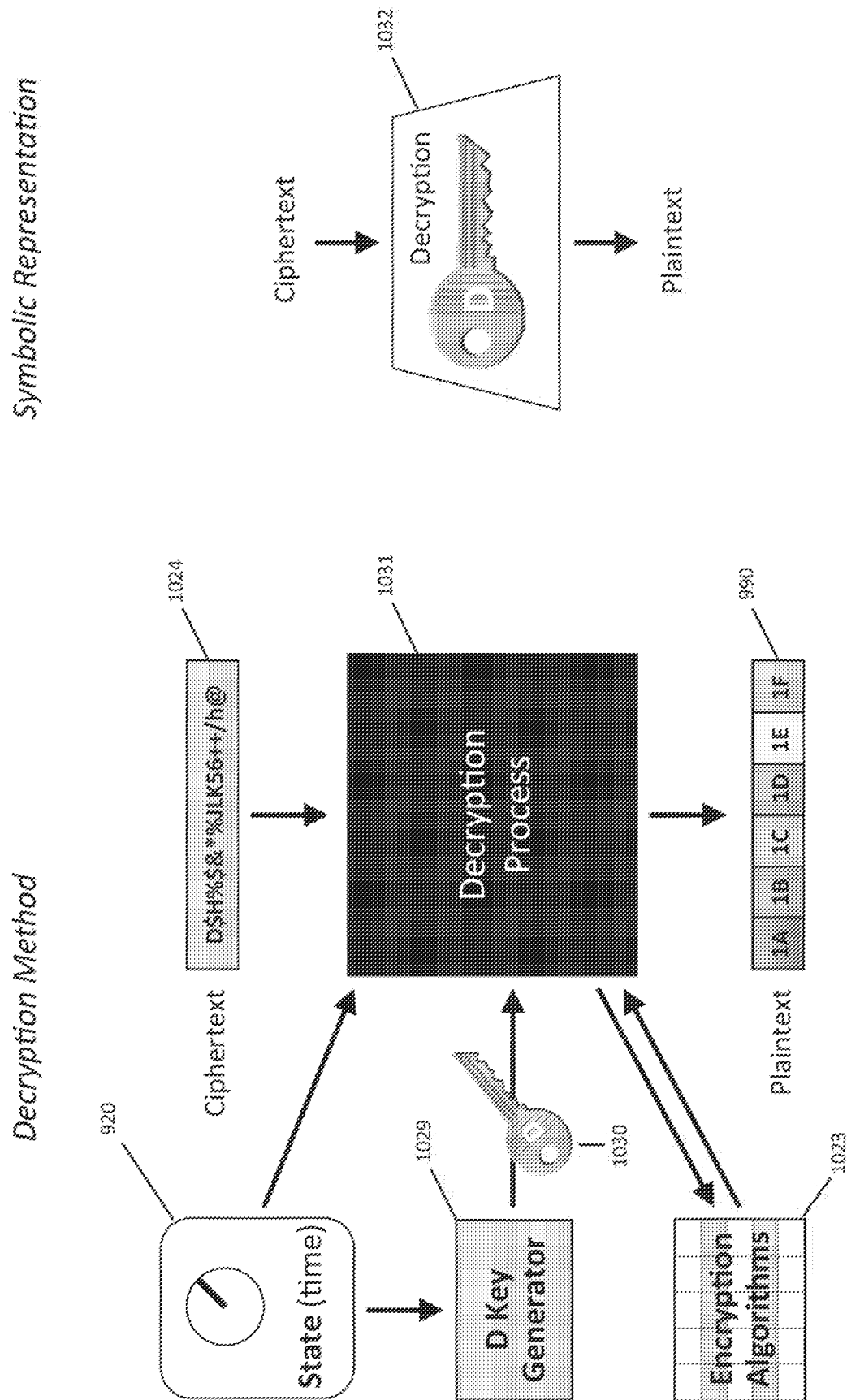


Figure 55B

Encrypting Scrambled Packet

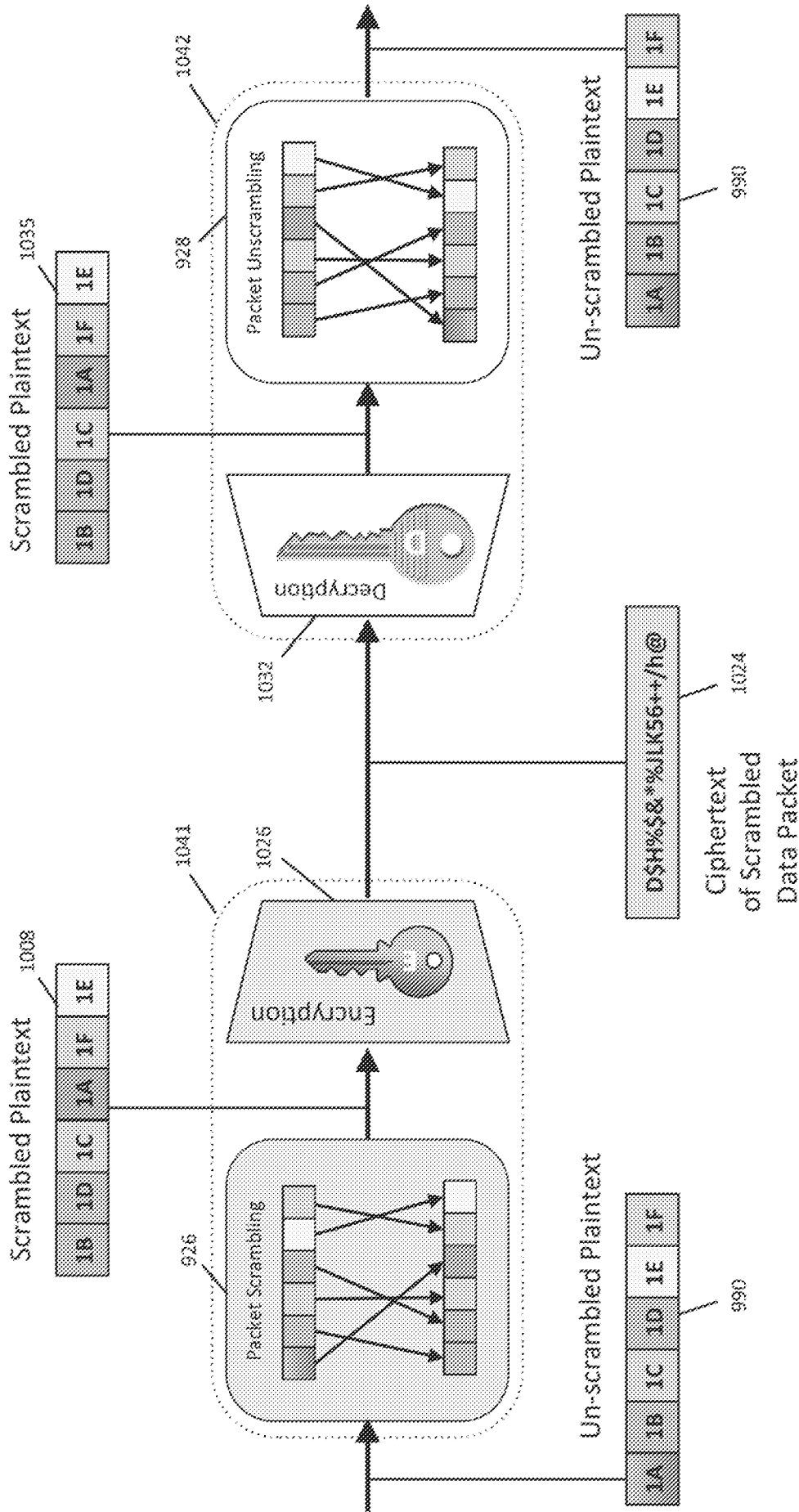


Figure 56

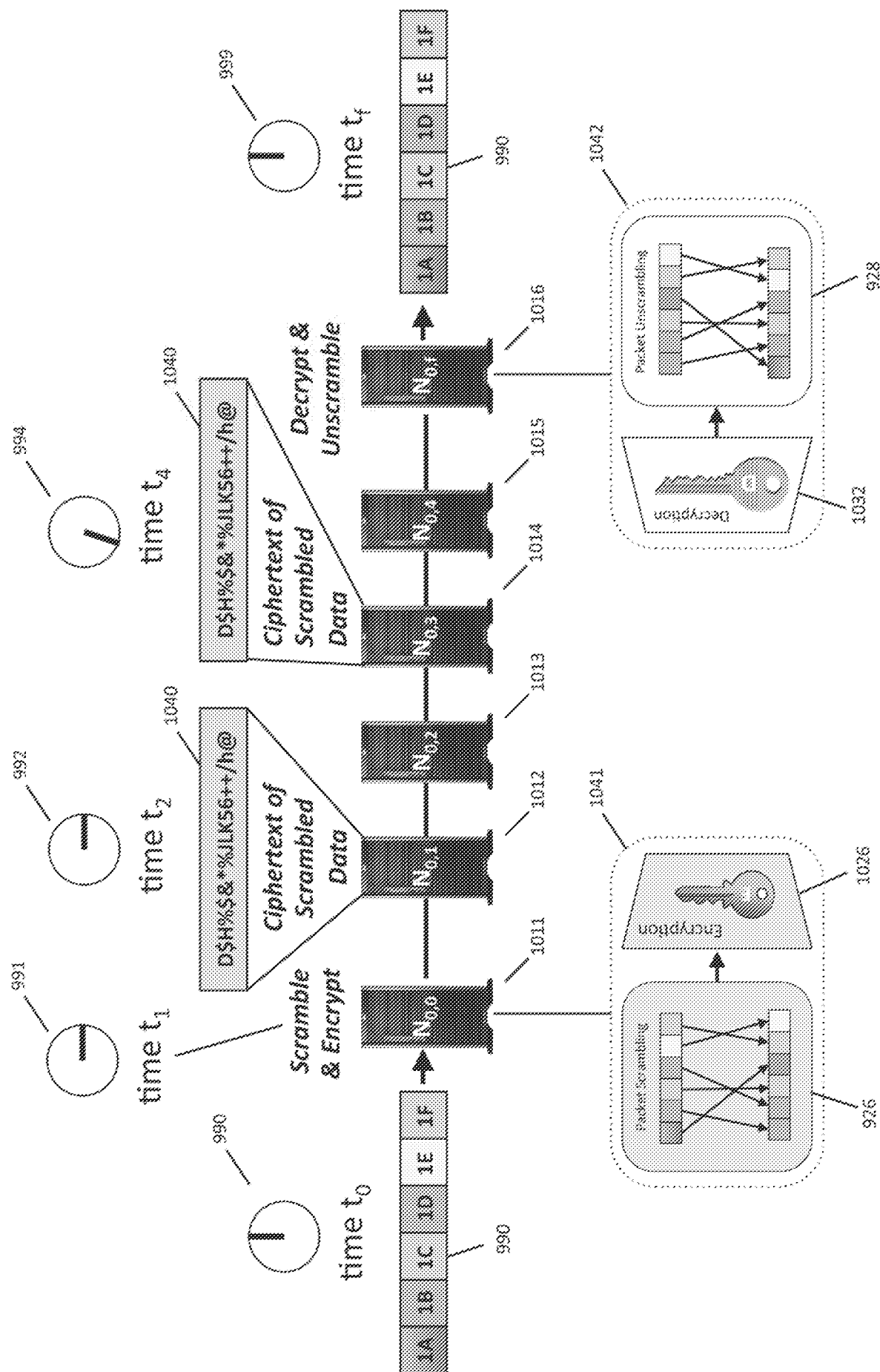


Figure 57

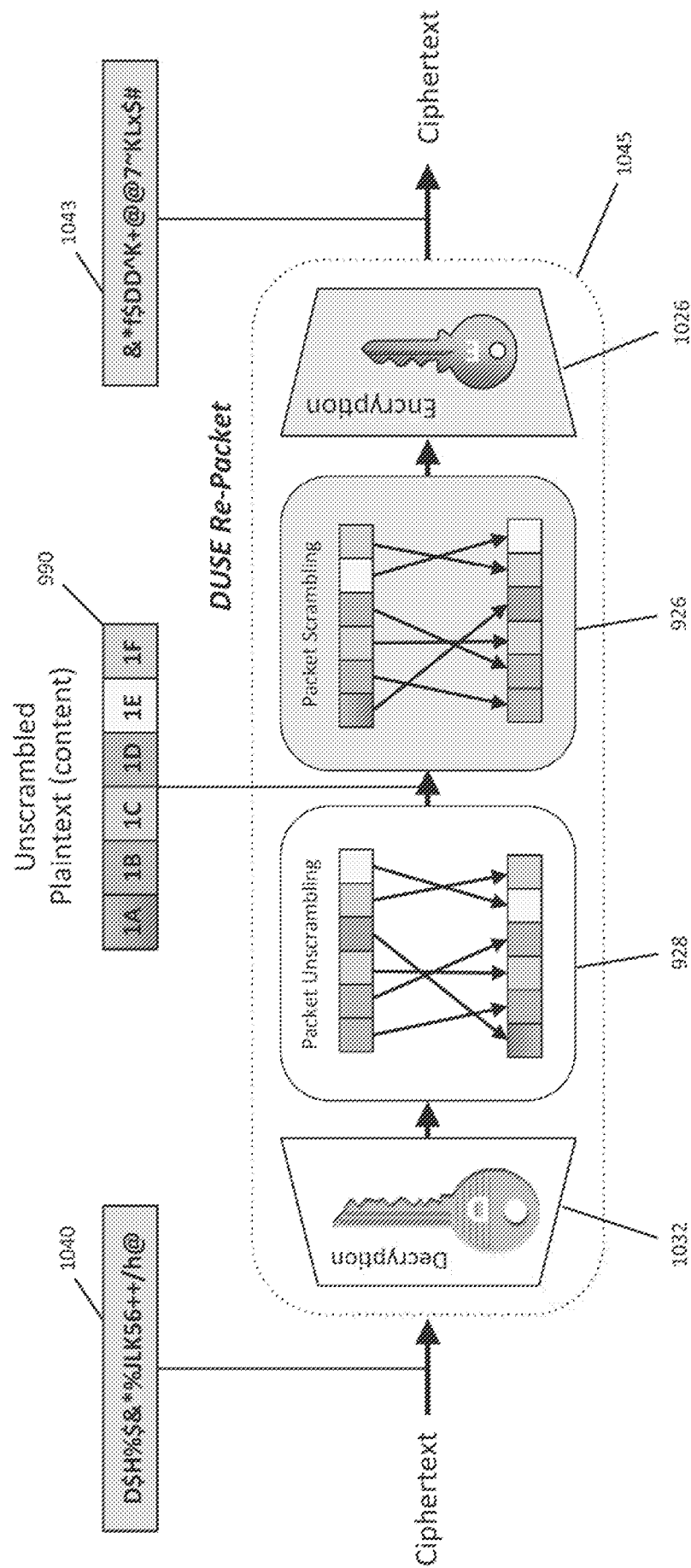


Figure 58

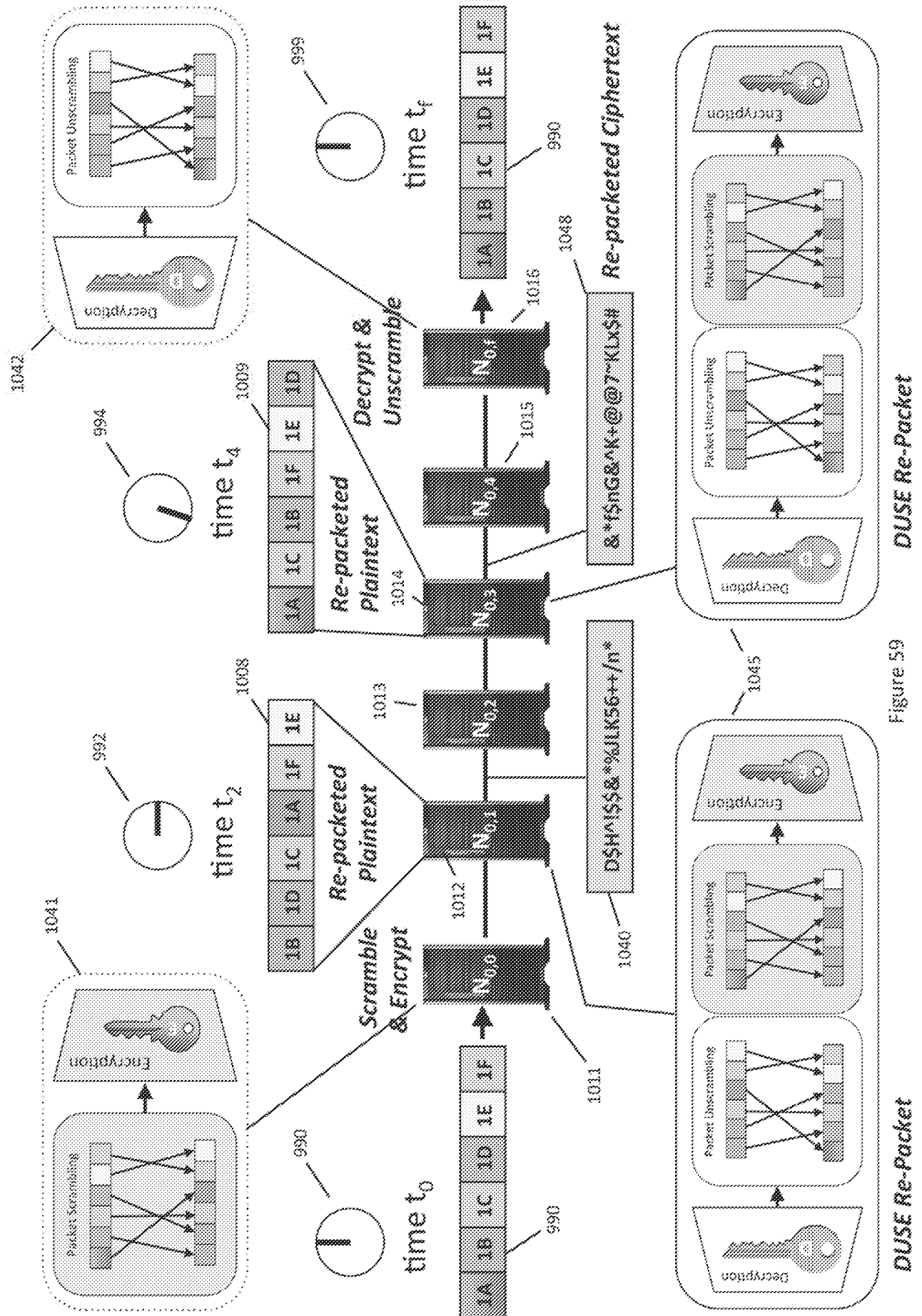


Figure 59

DUSE Re-Packet

DUSE Re-Packet

Symbolic Representation

Splitting Method

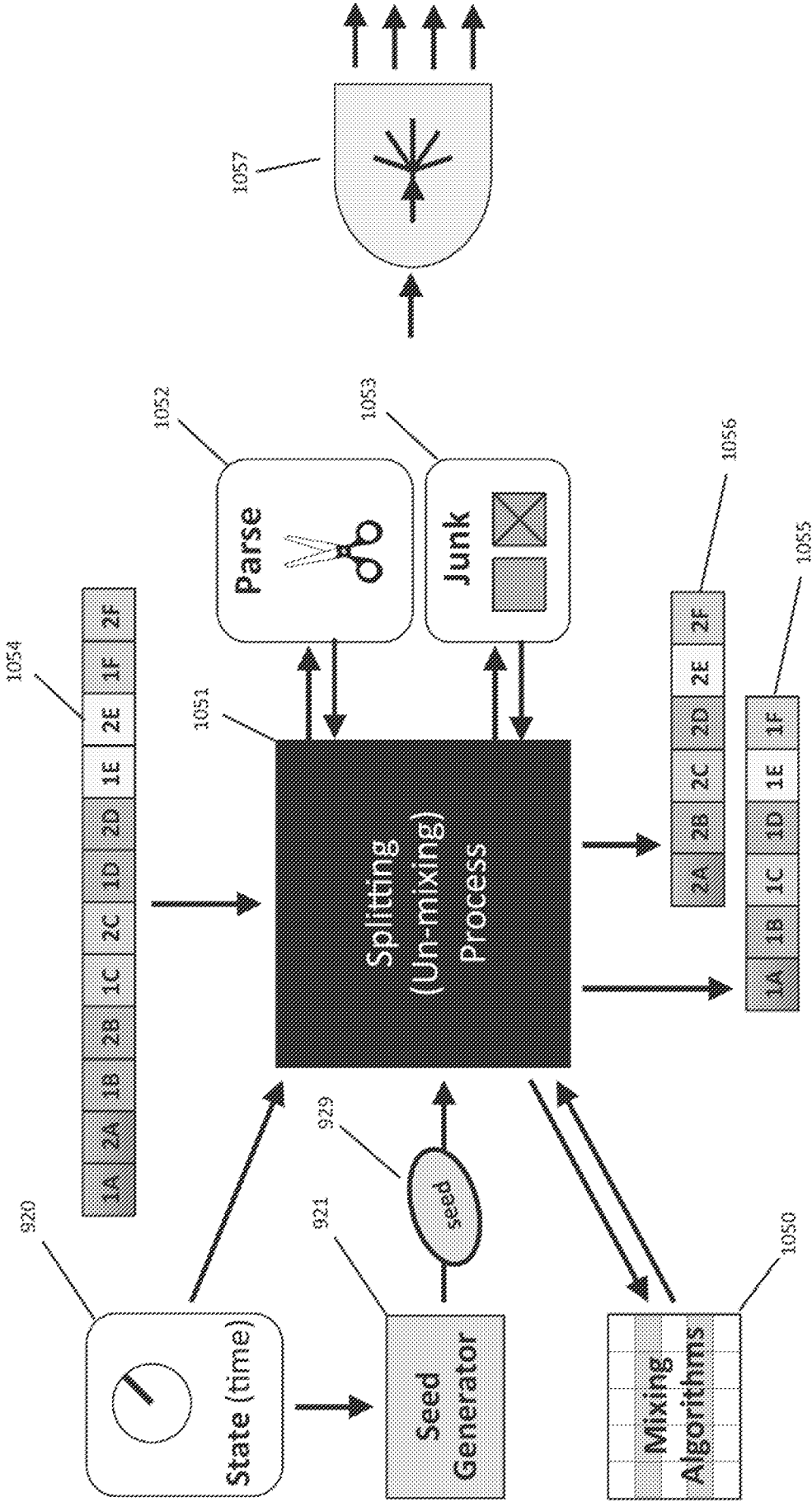


Figure 60A

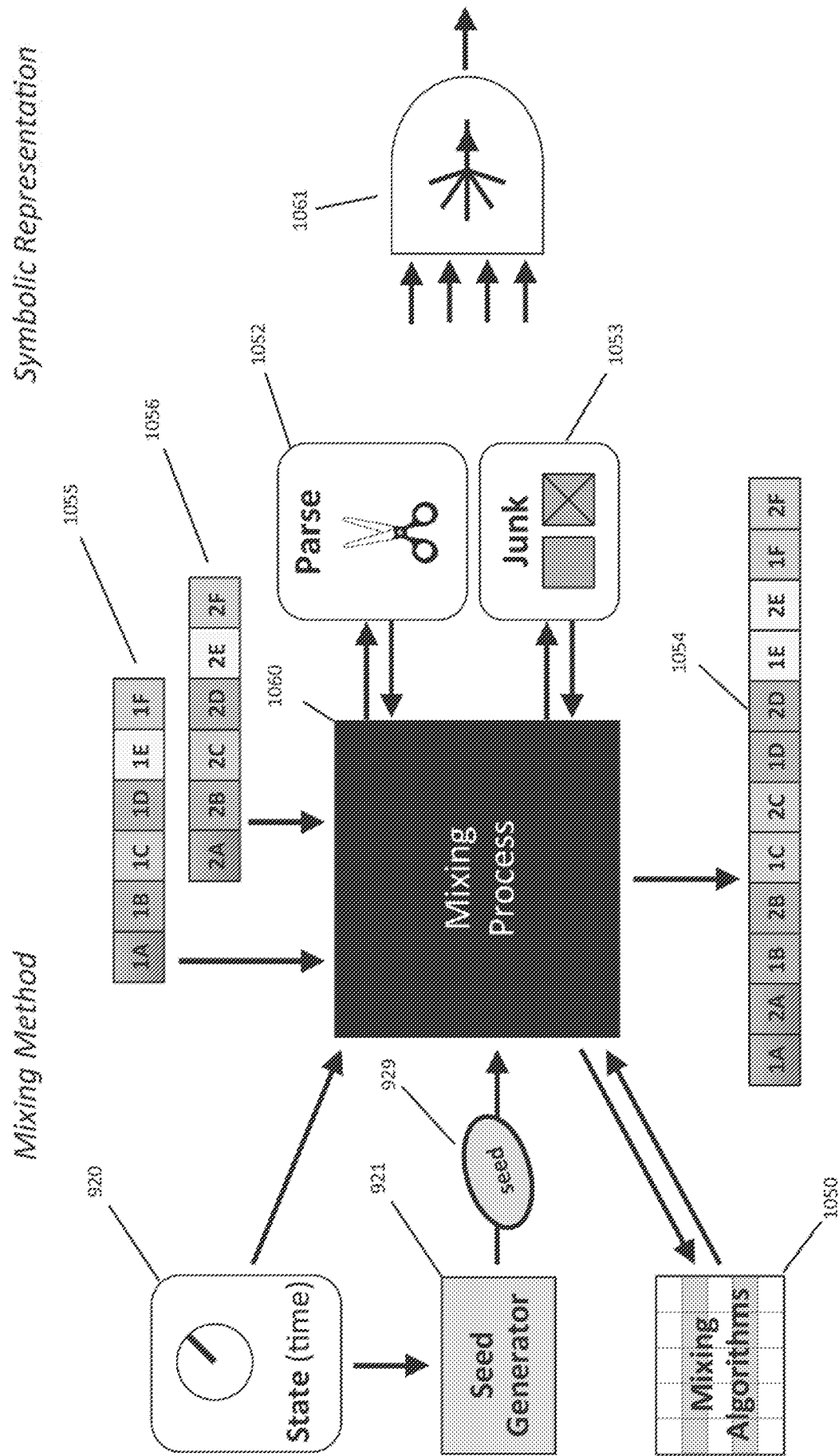


Figure 608

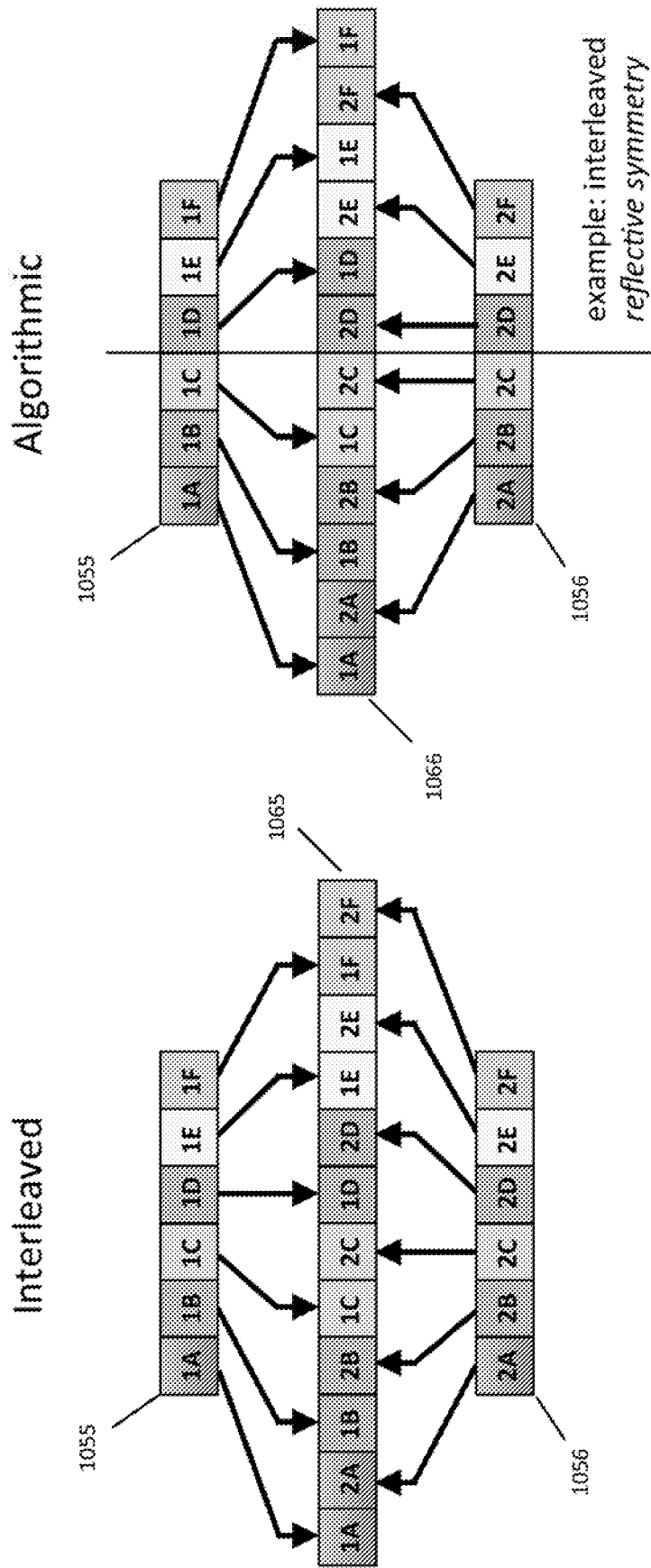
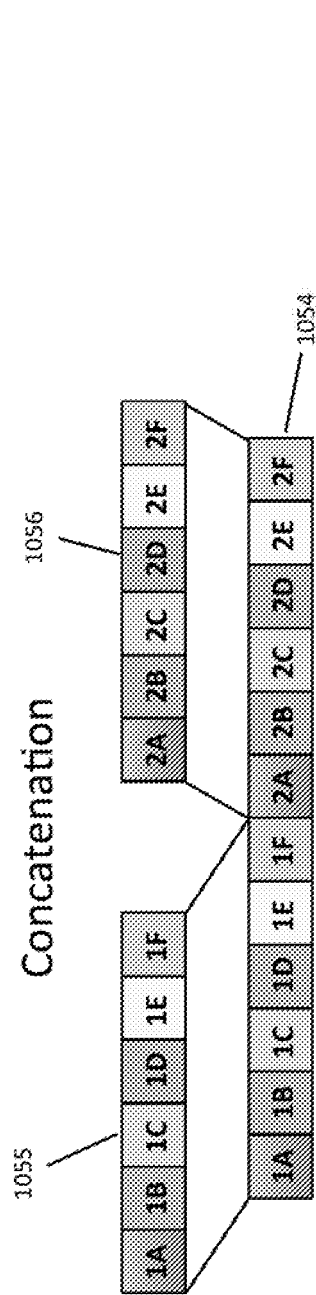
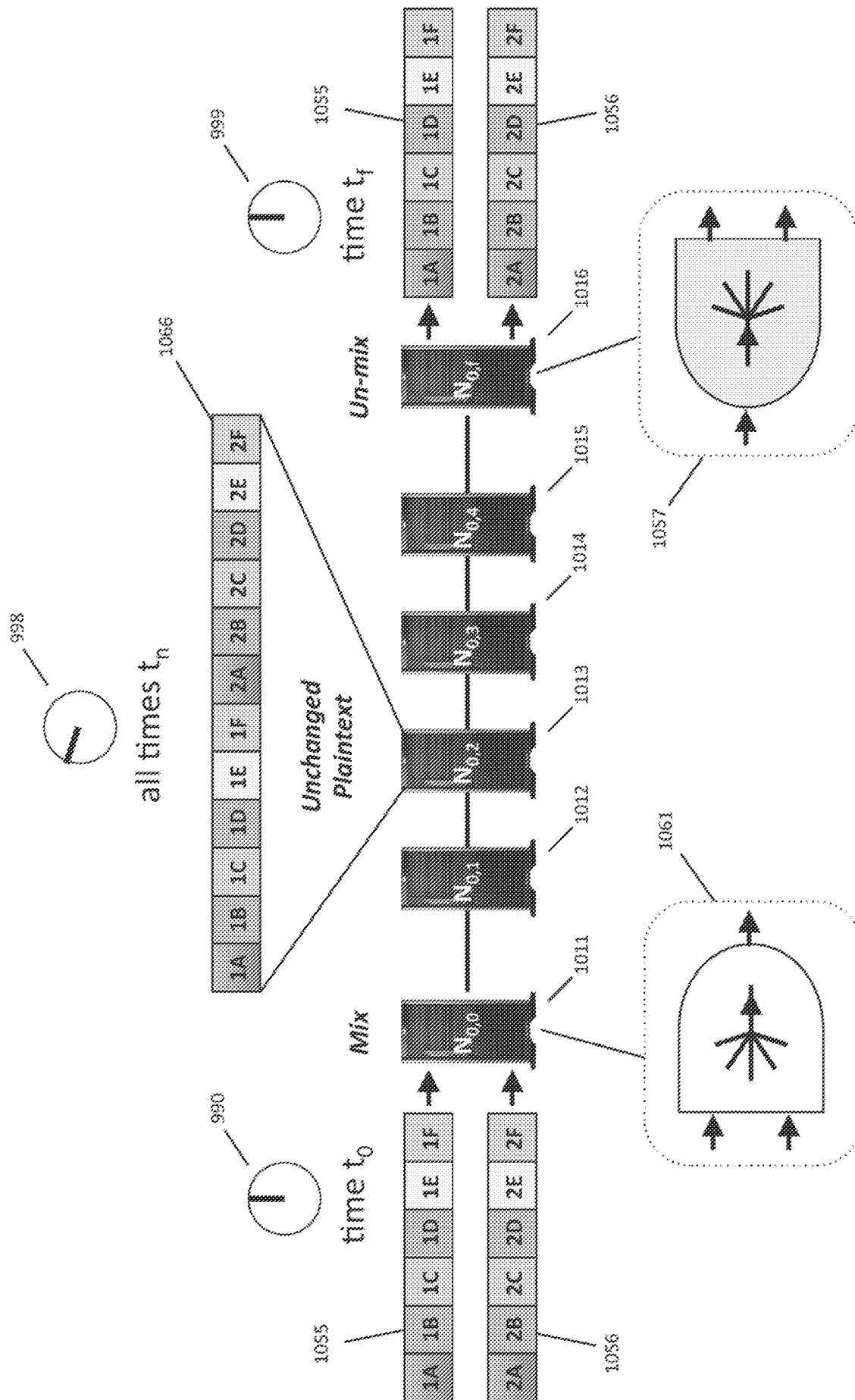
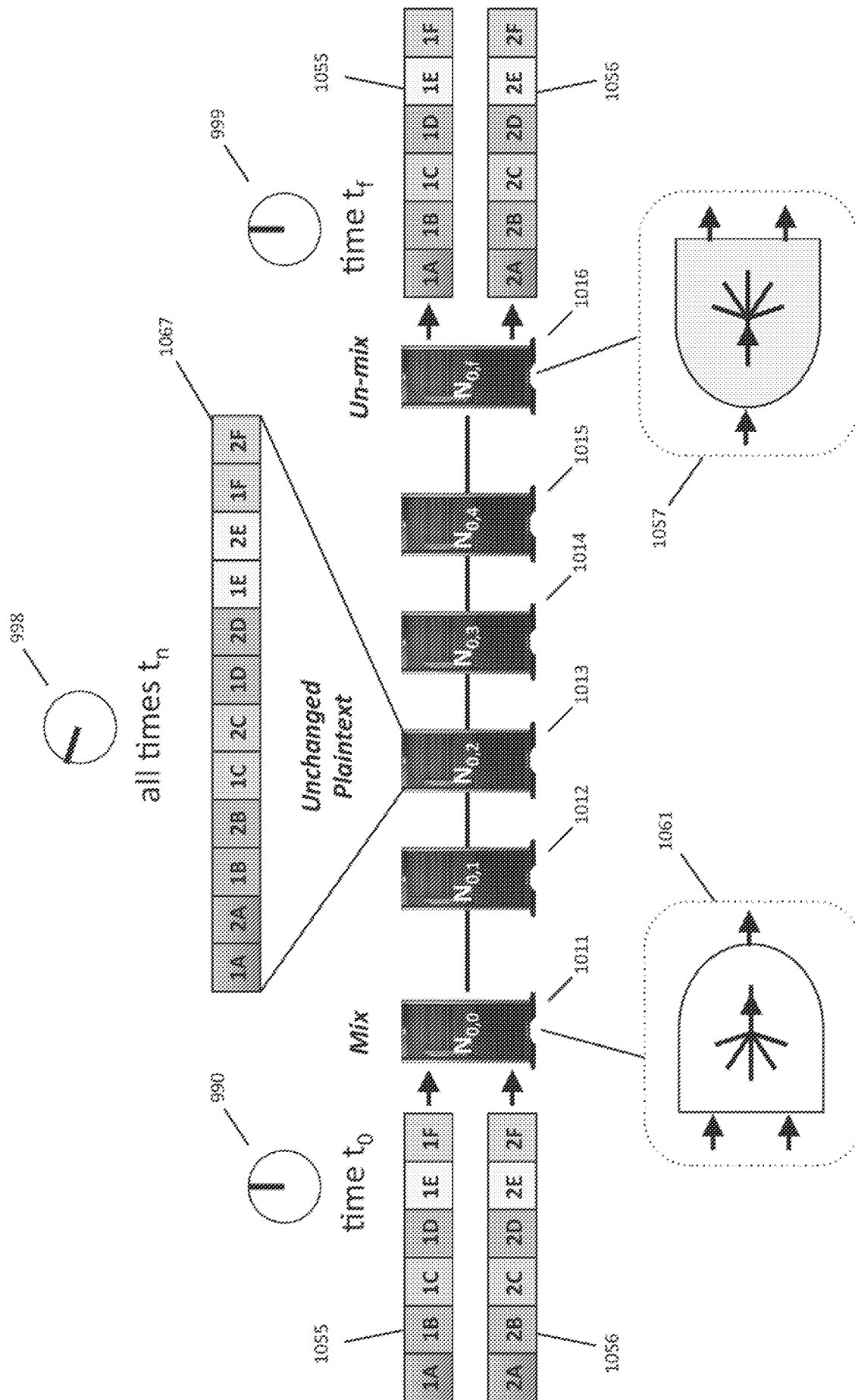


Figure 61A



2000



250307

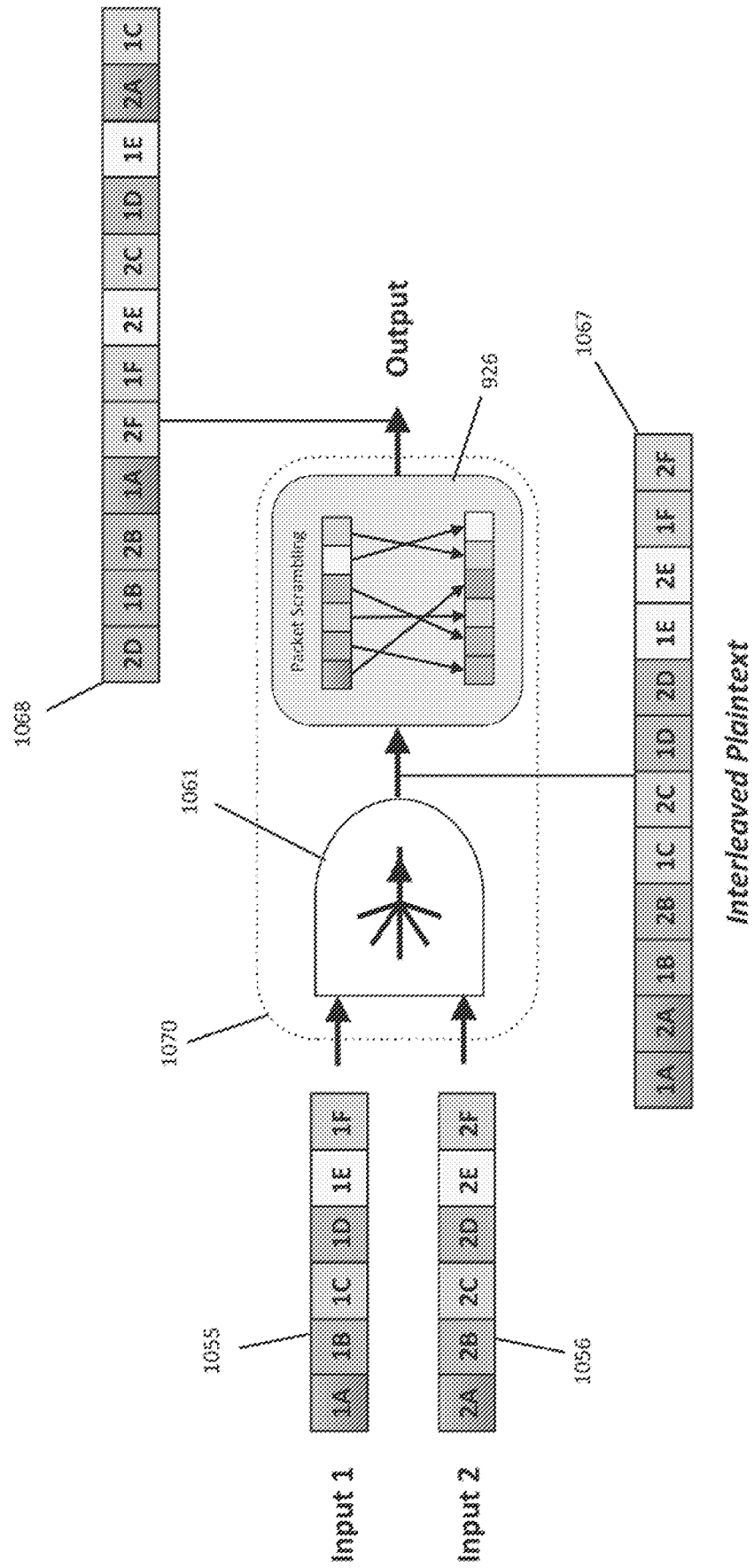


Figure 62A

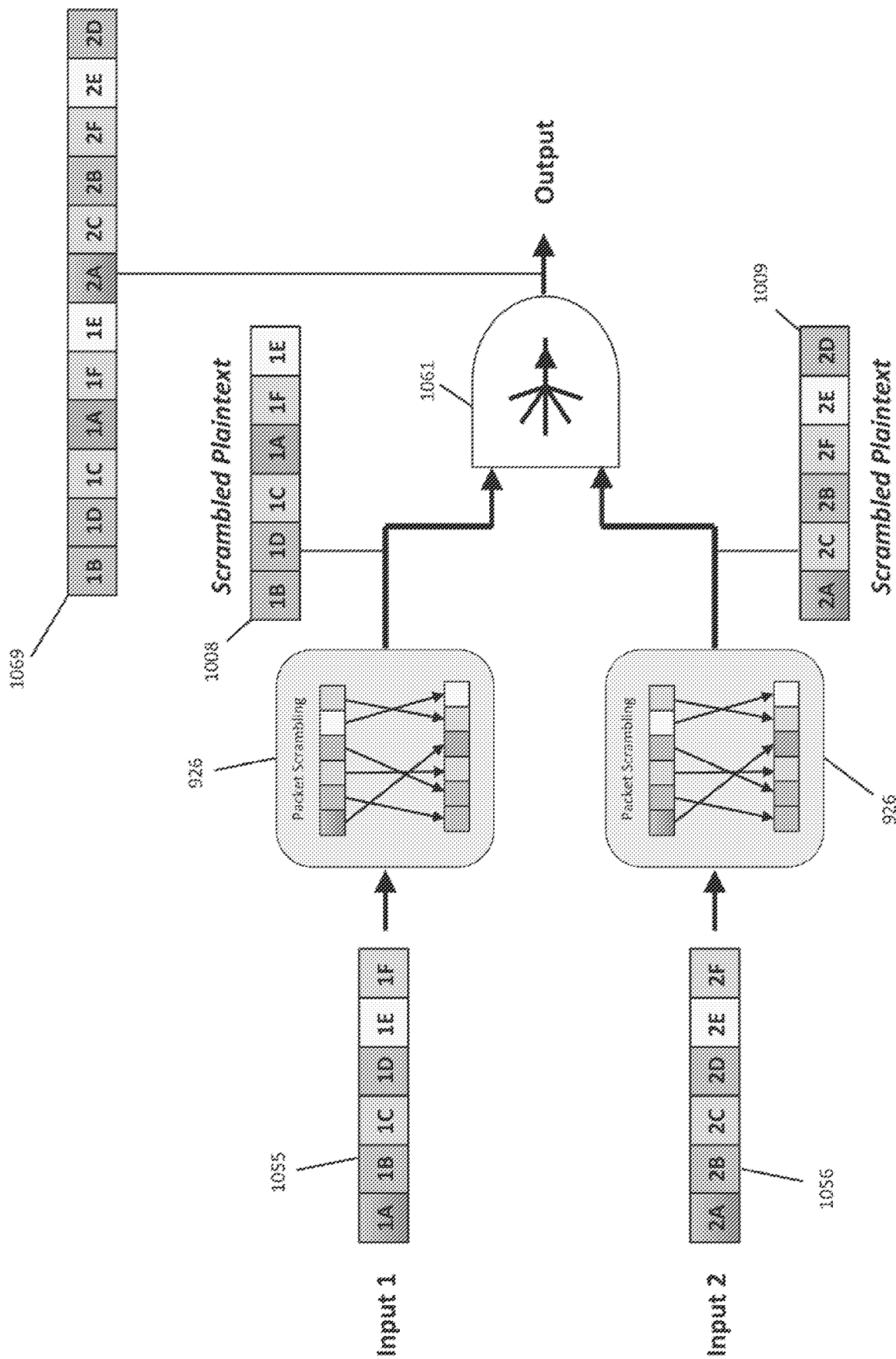
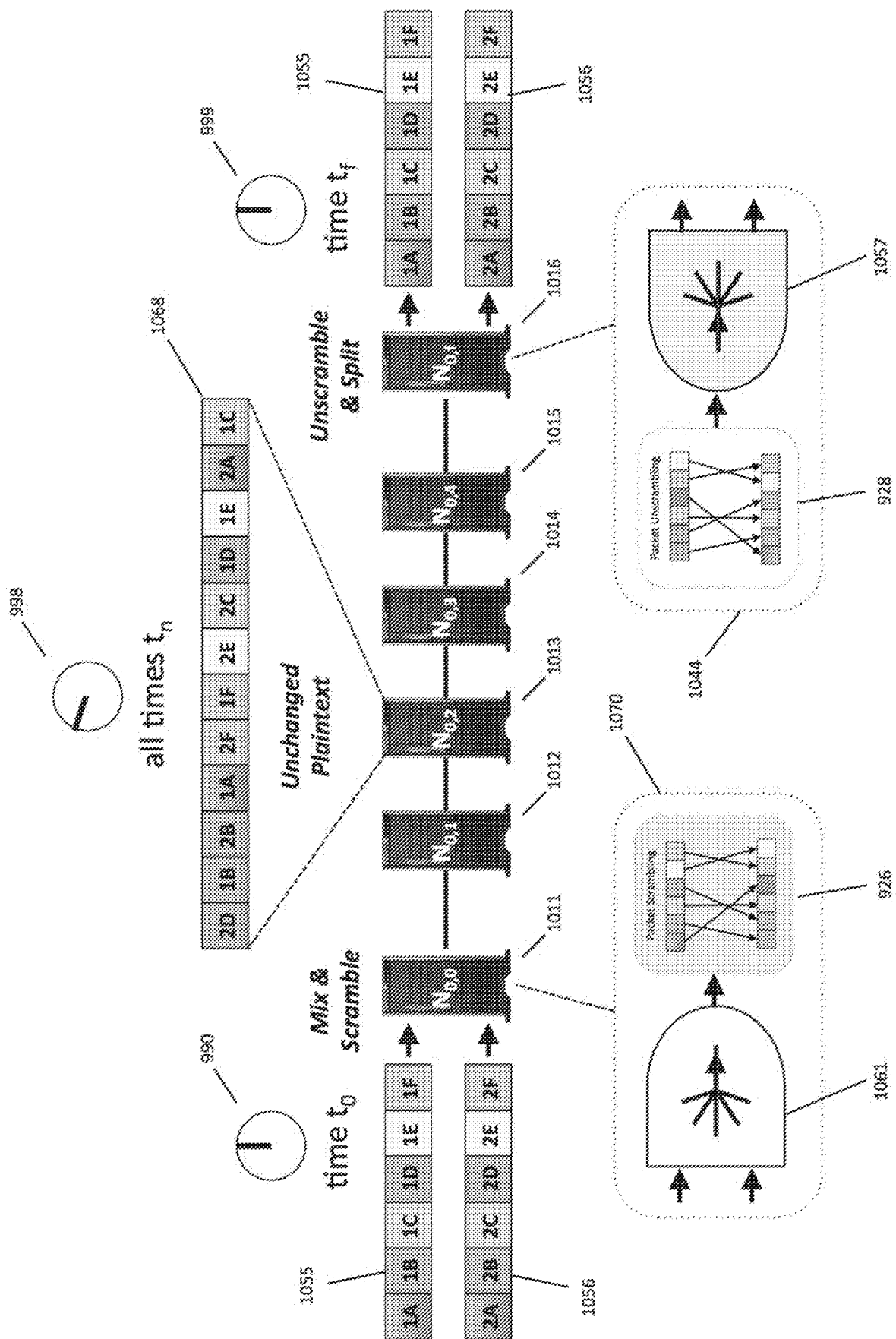
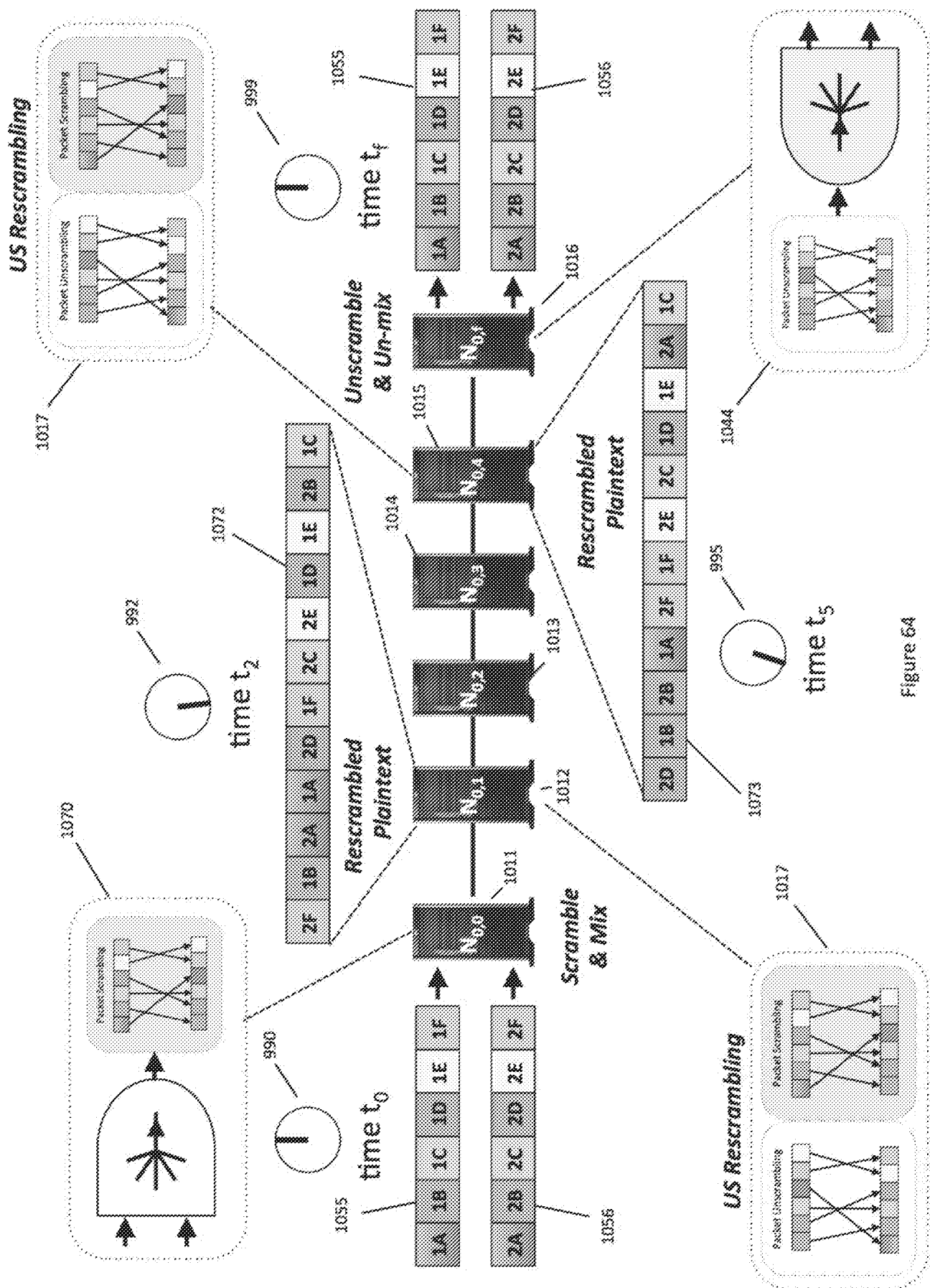


Figure 62B



SECRET



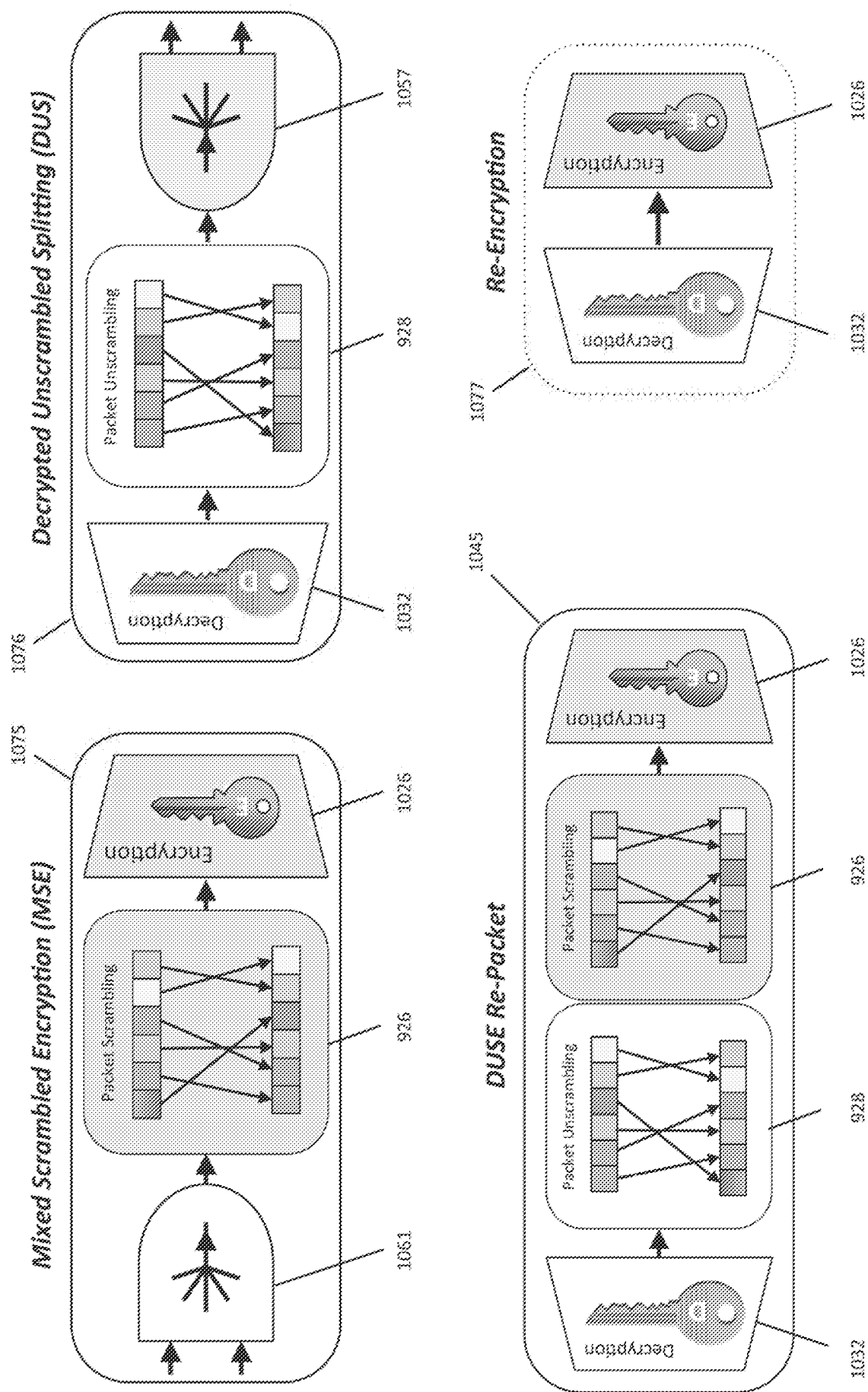


Figure 65

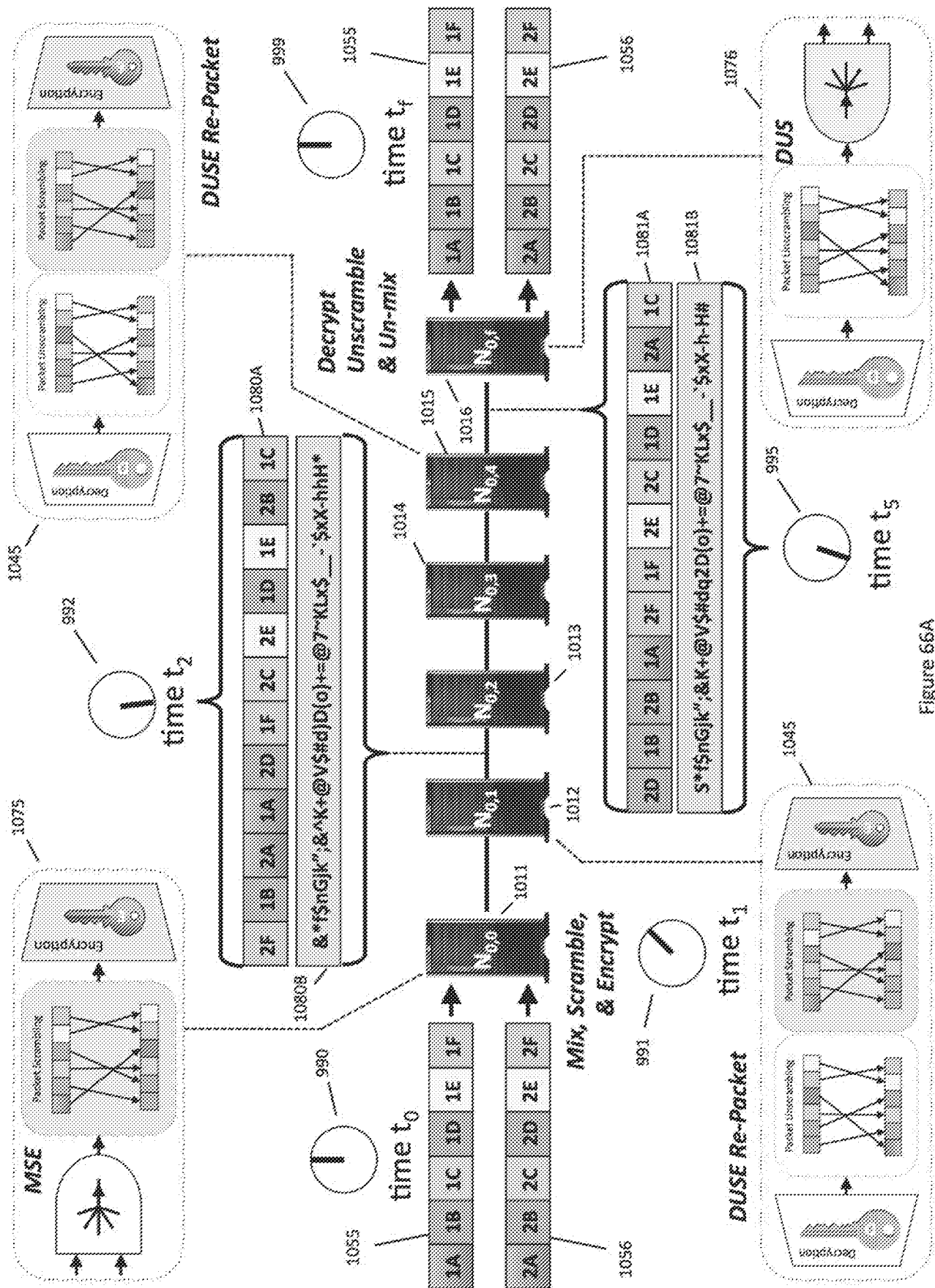
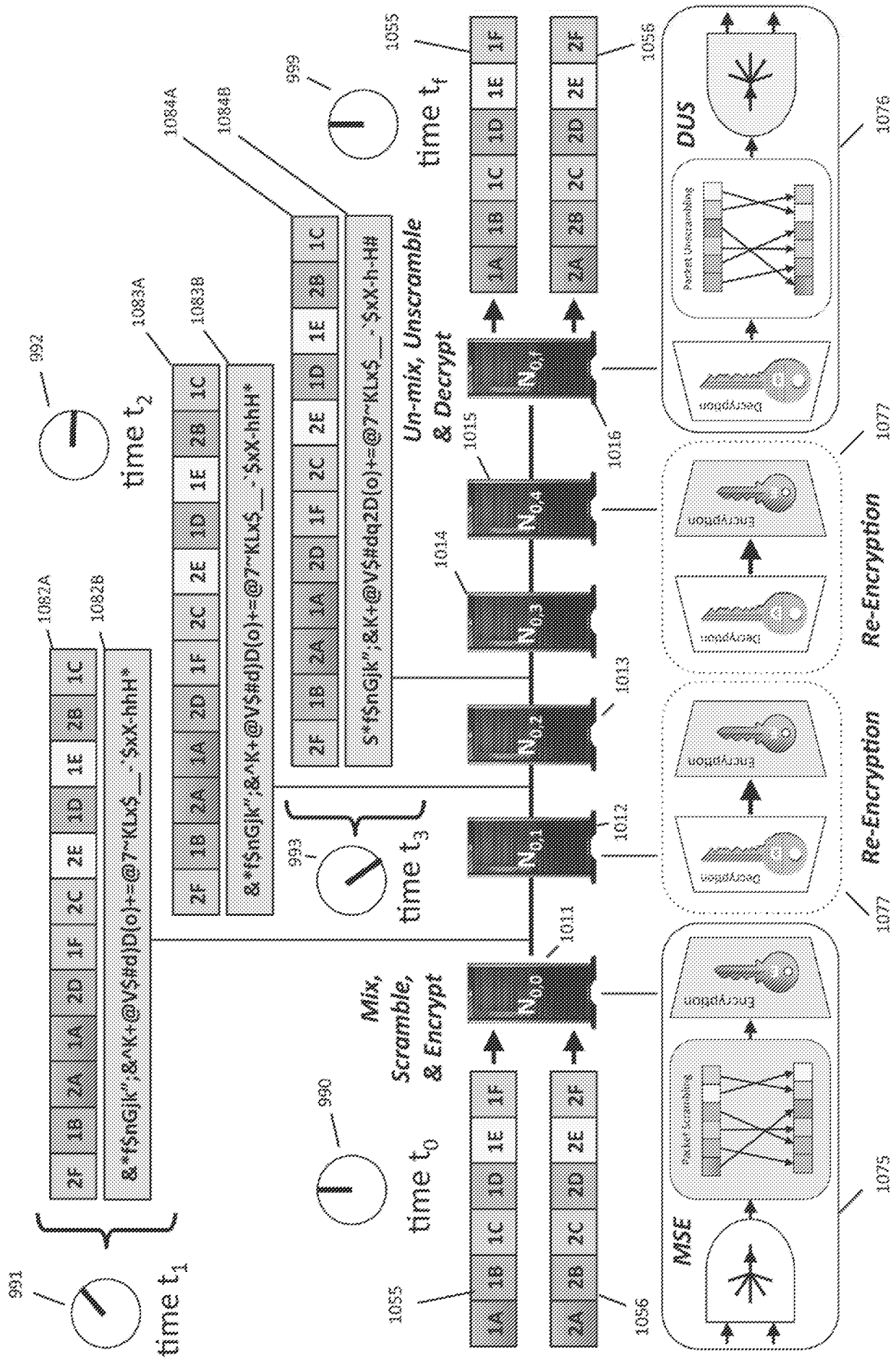
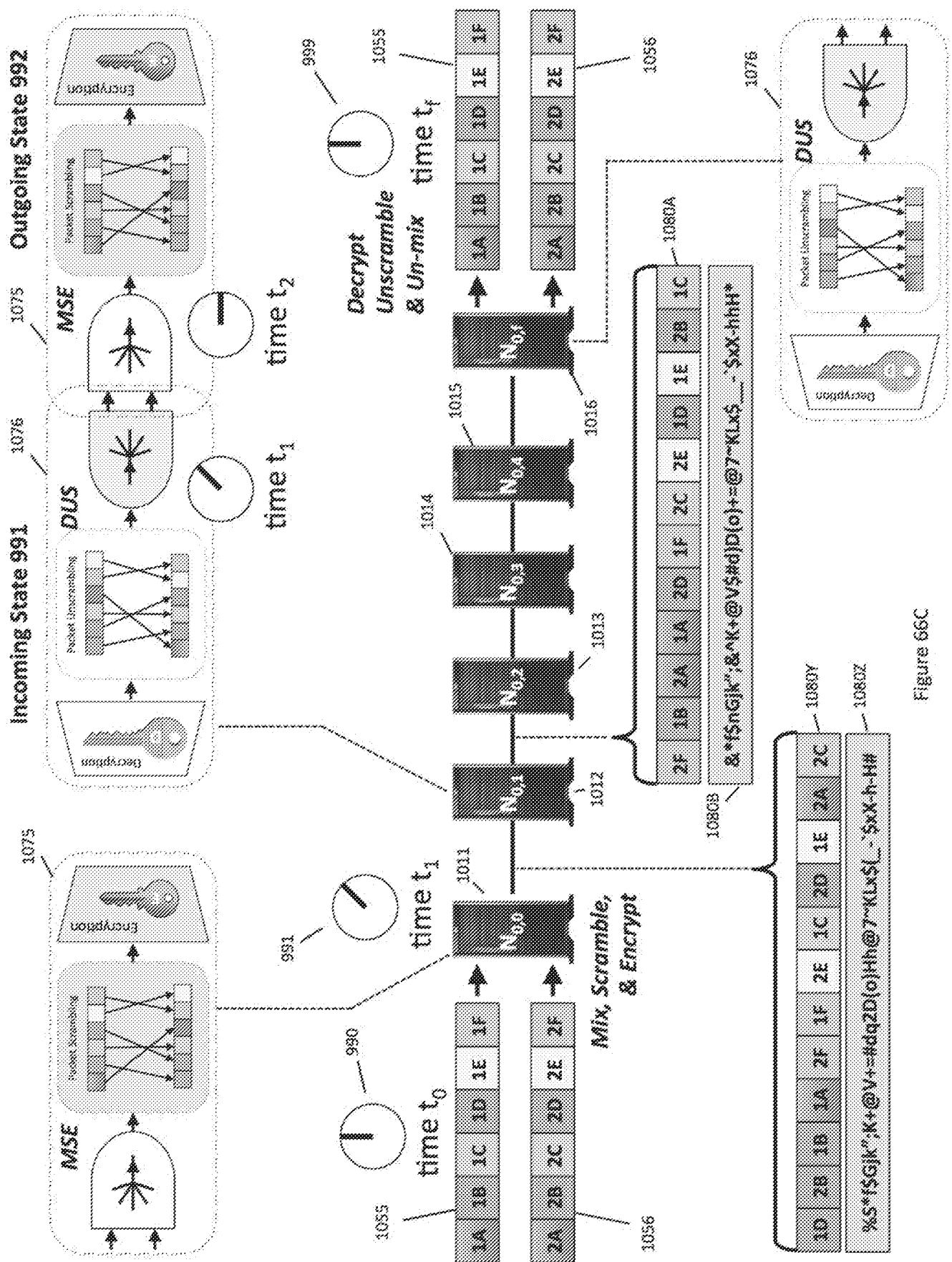


Figure 66A

[illegible]

[illegible]

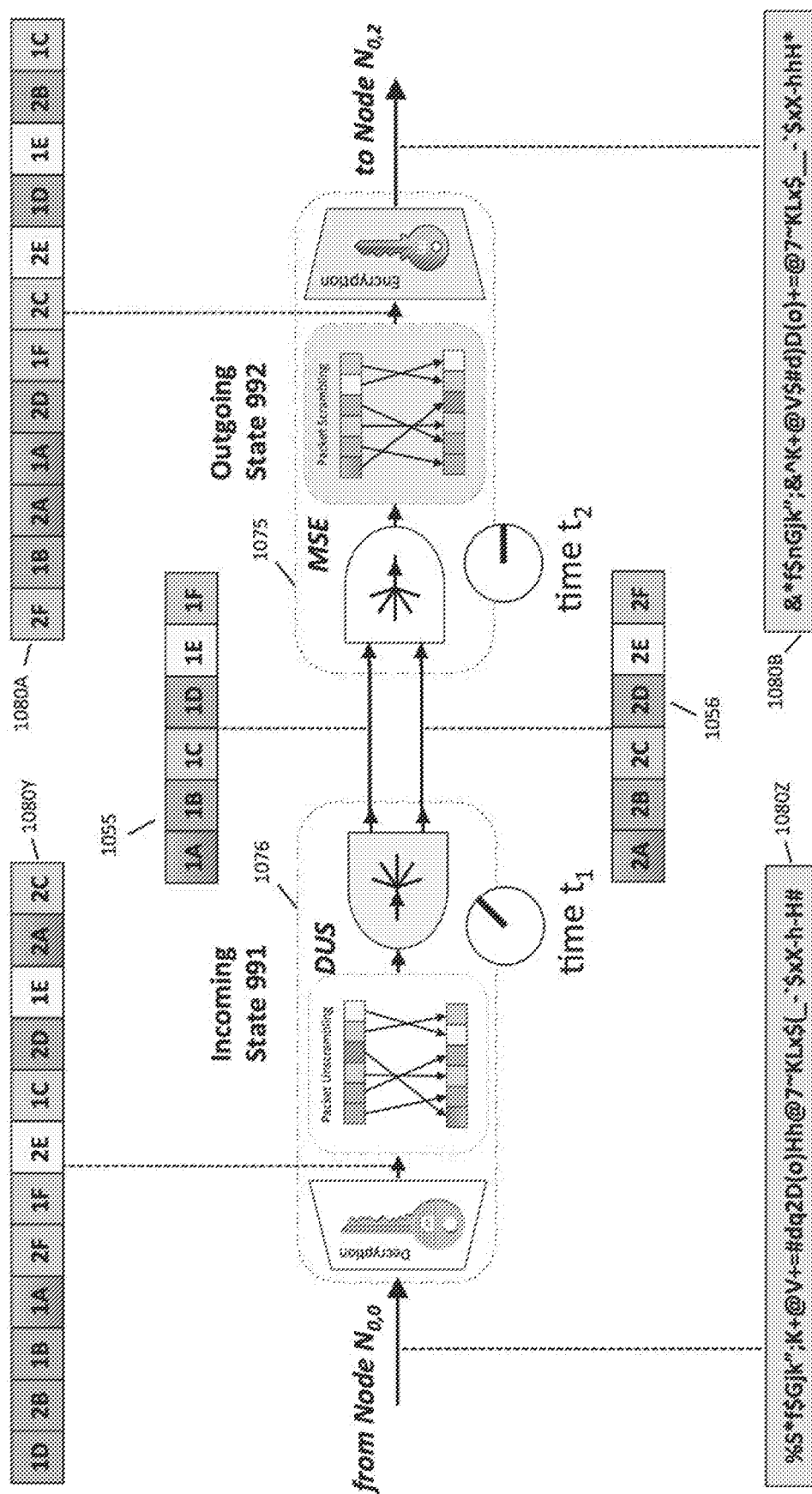


Figure 66D

Symbolic Representation

Mixing Method

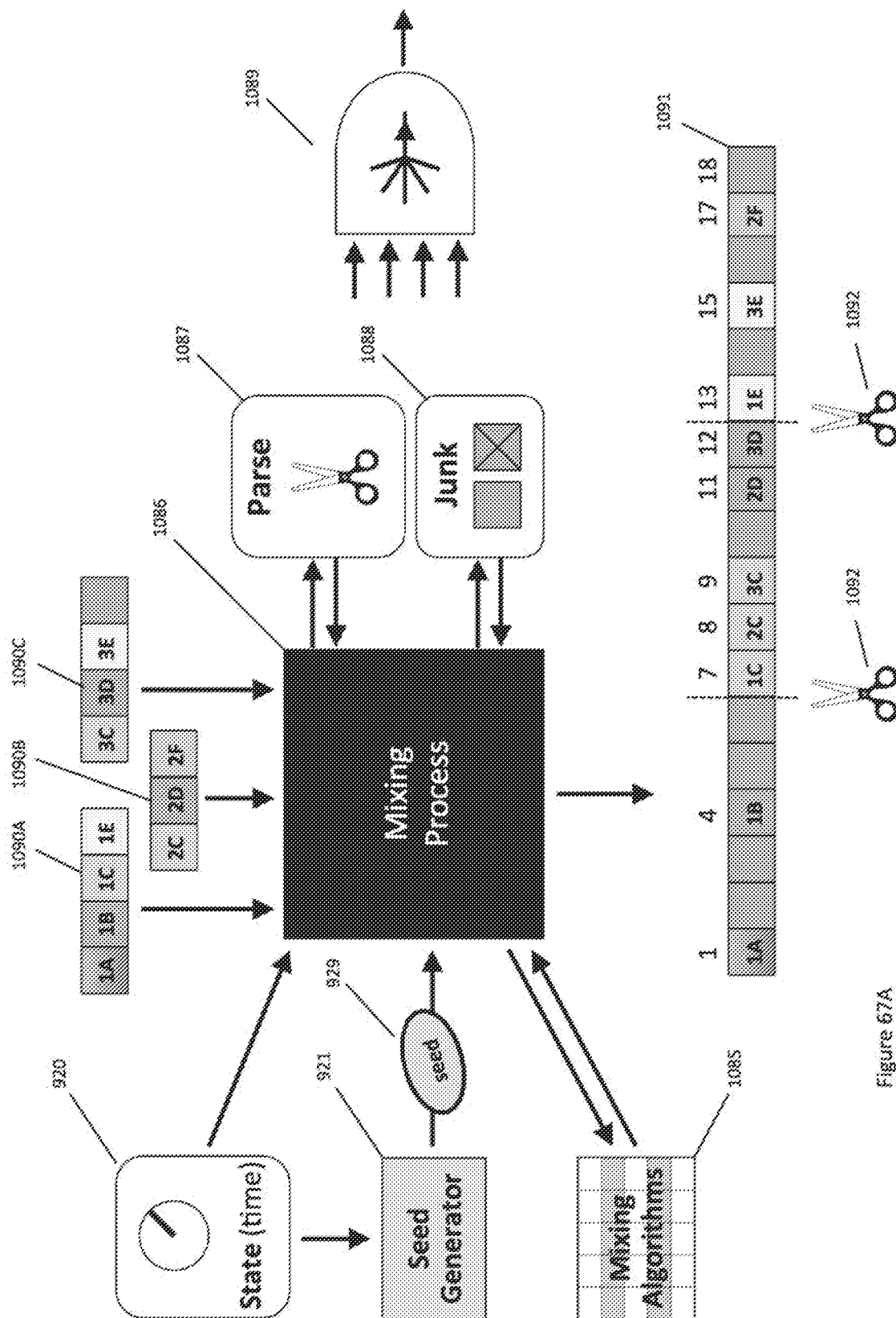


Figure 67A

Symbolic Representation

Mixing Method

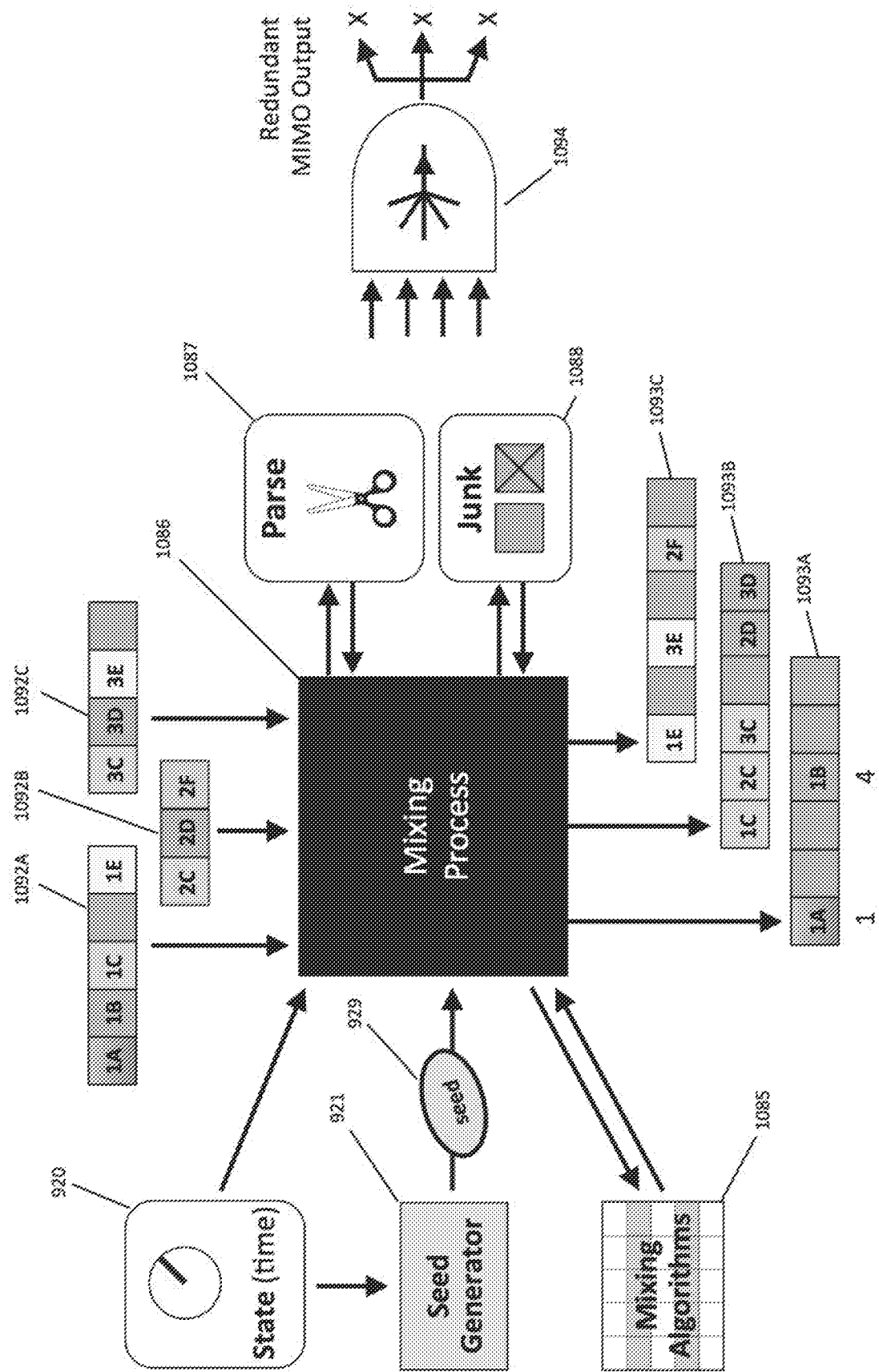


Figure 67B

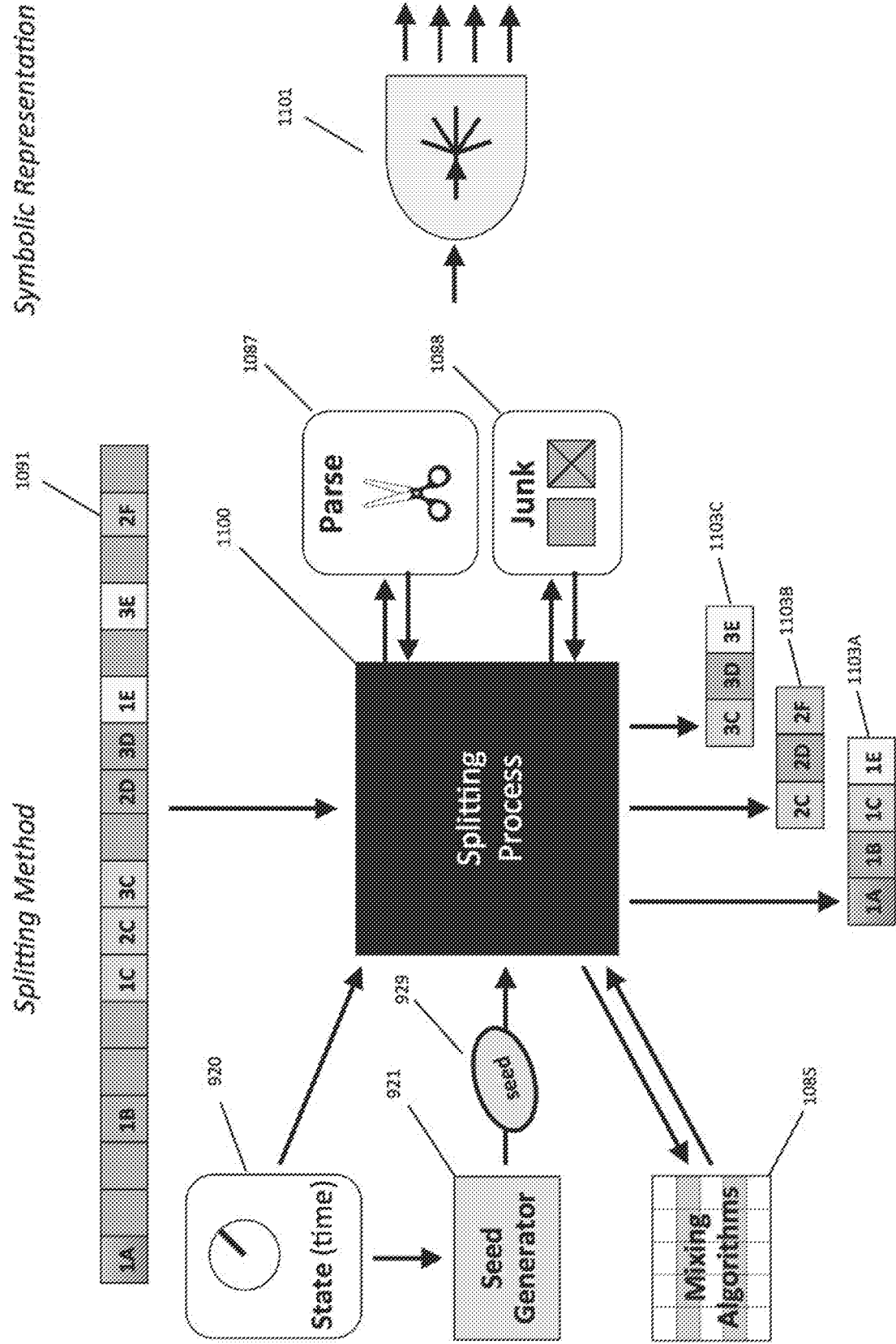


Figure 67C

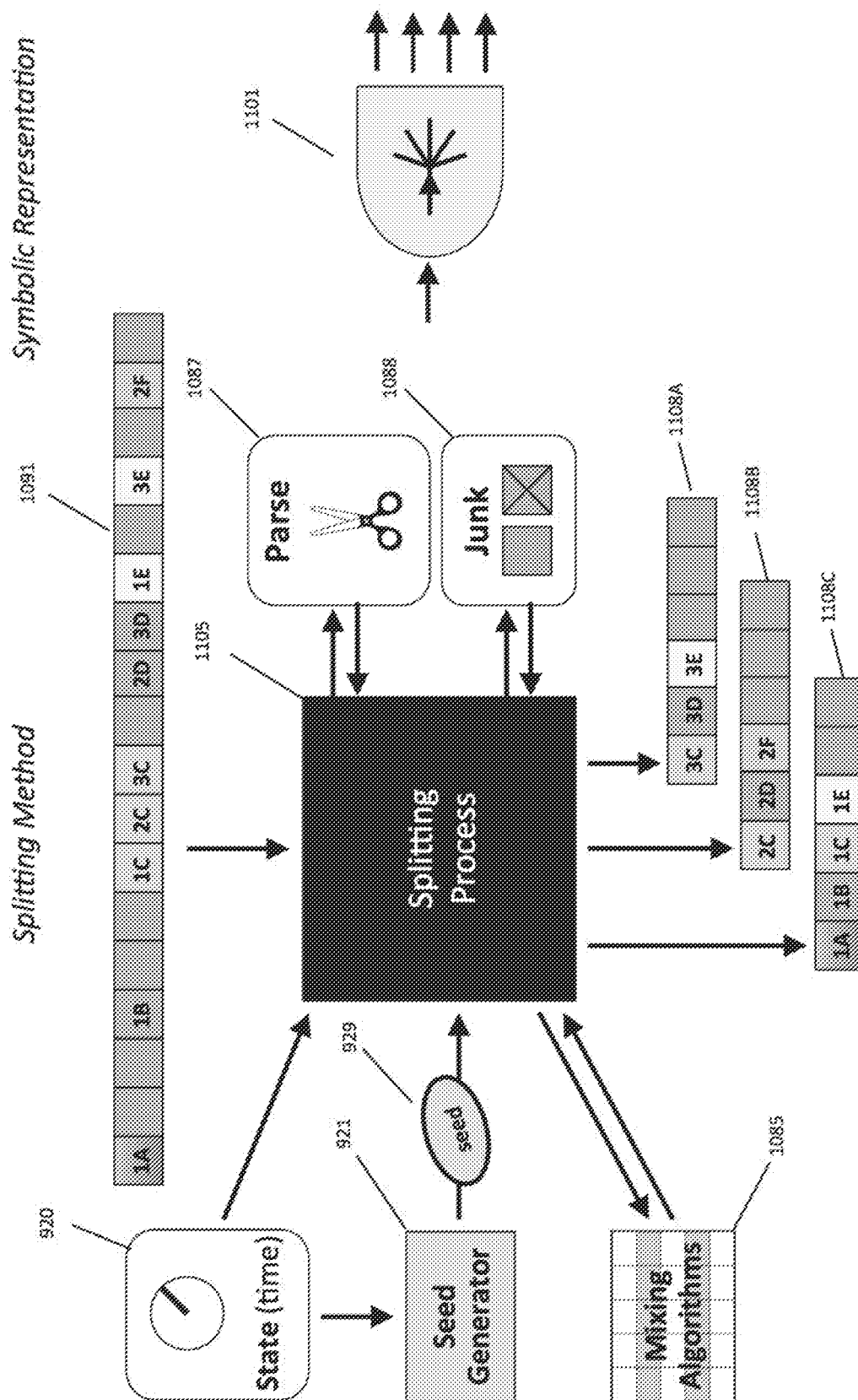


Figure 67D

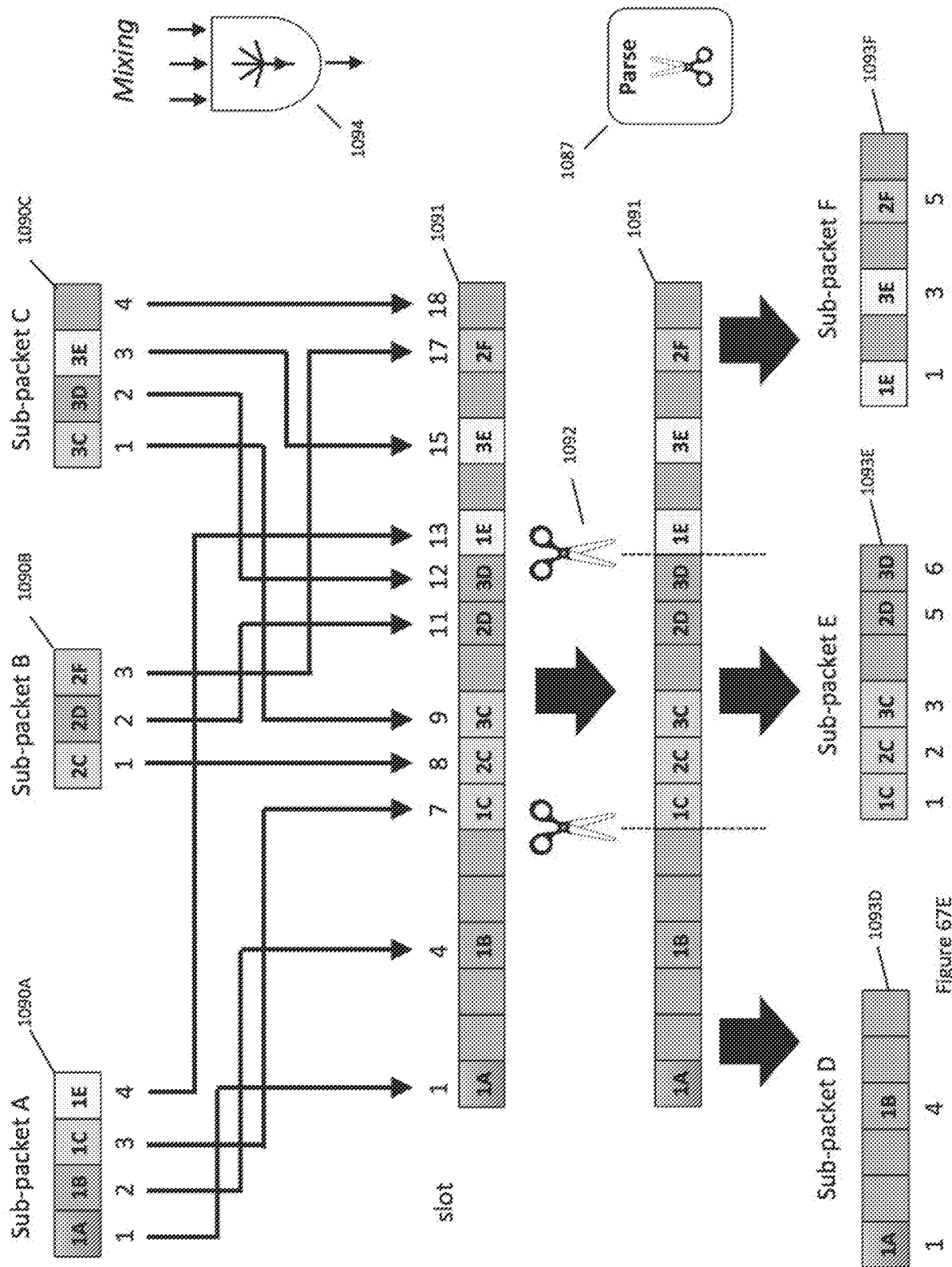


Figure 67E

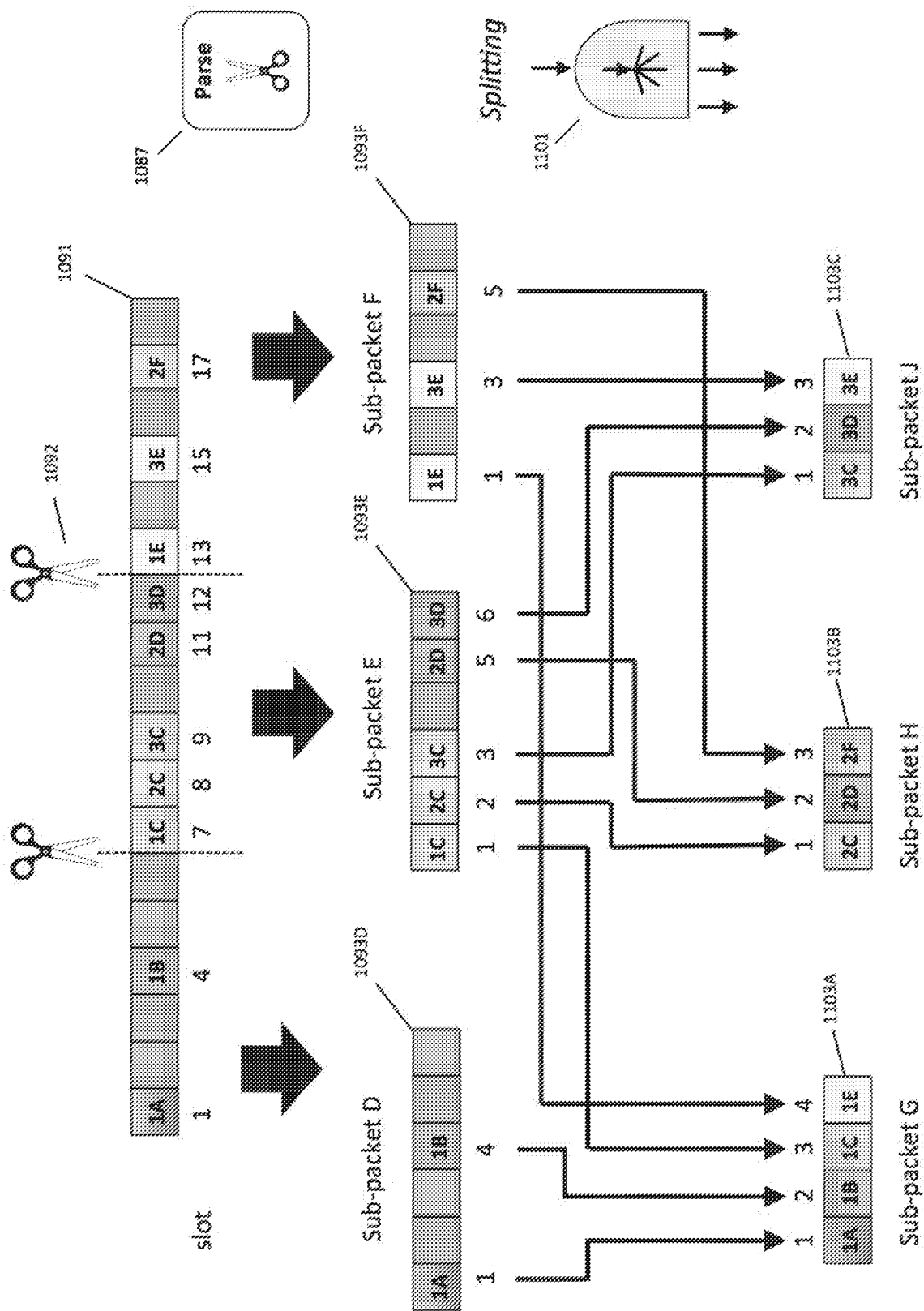


Figure 67F

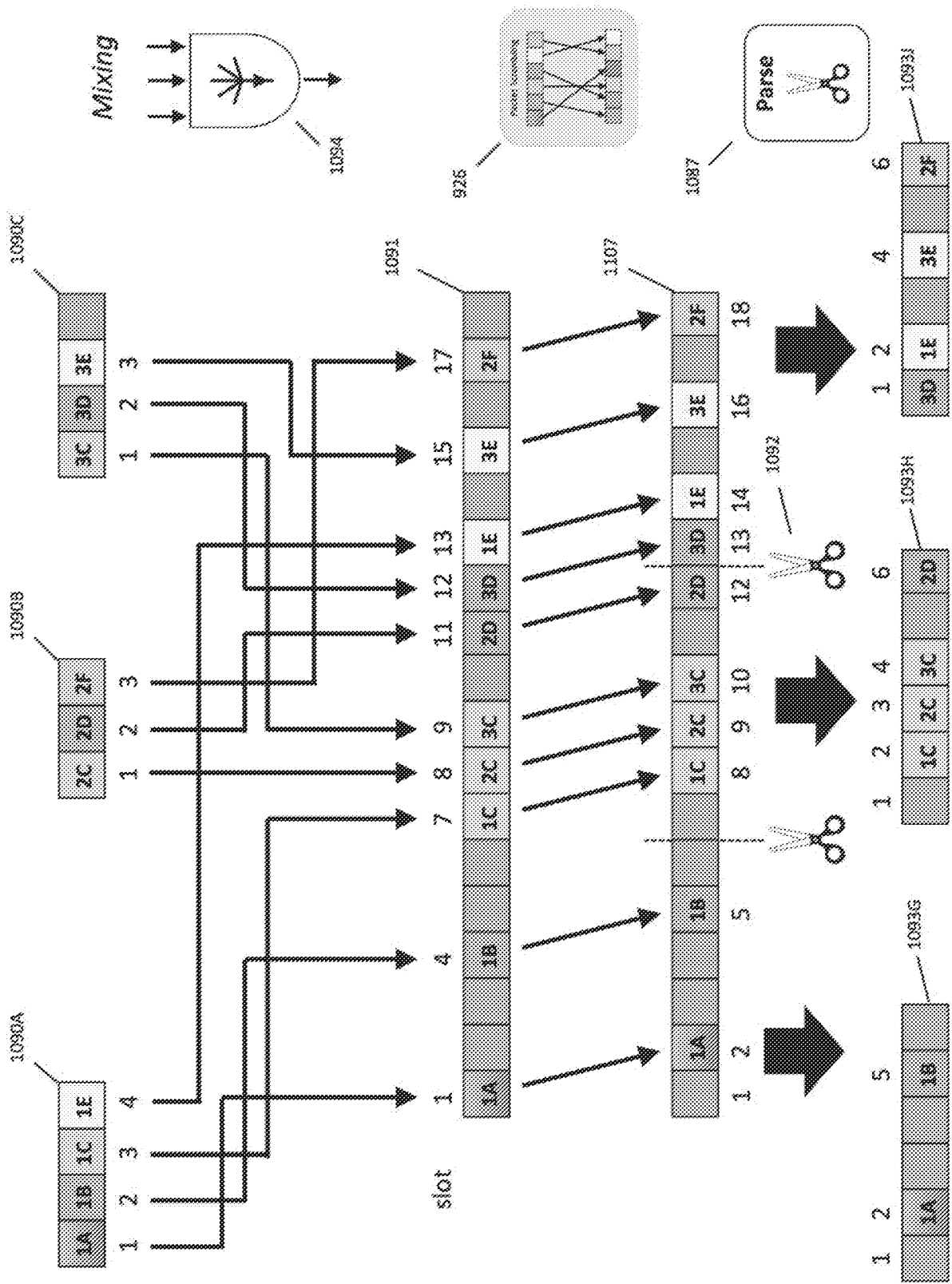


Figure 67G

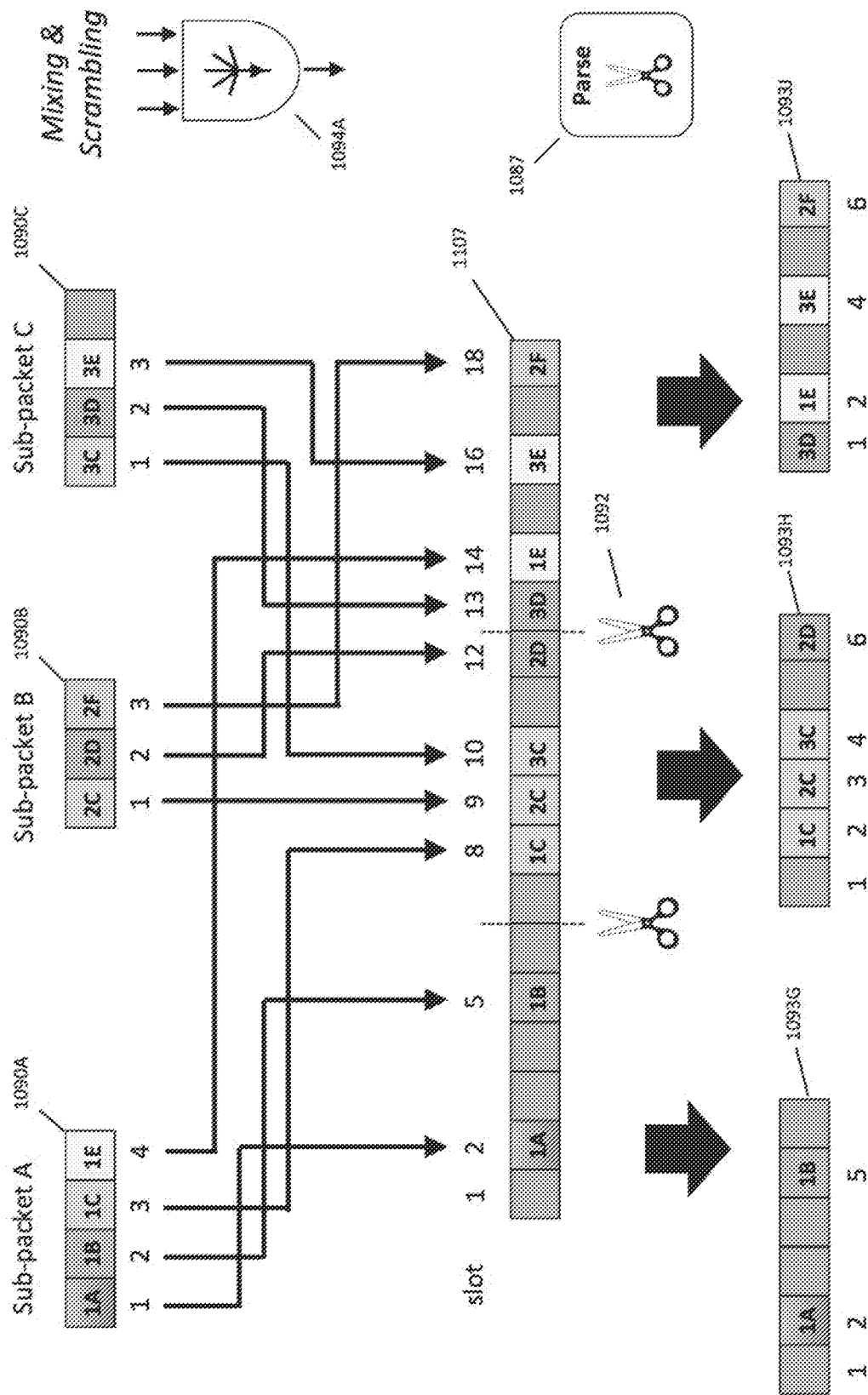
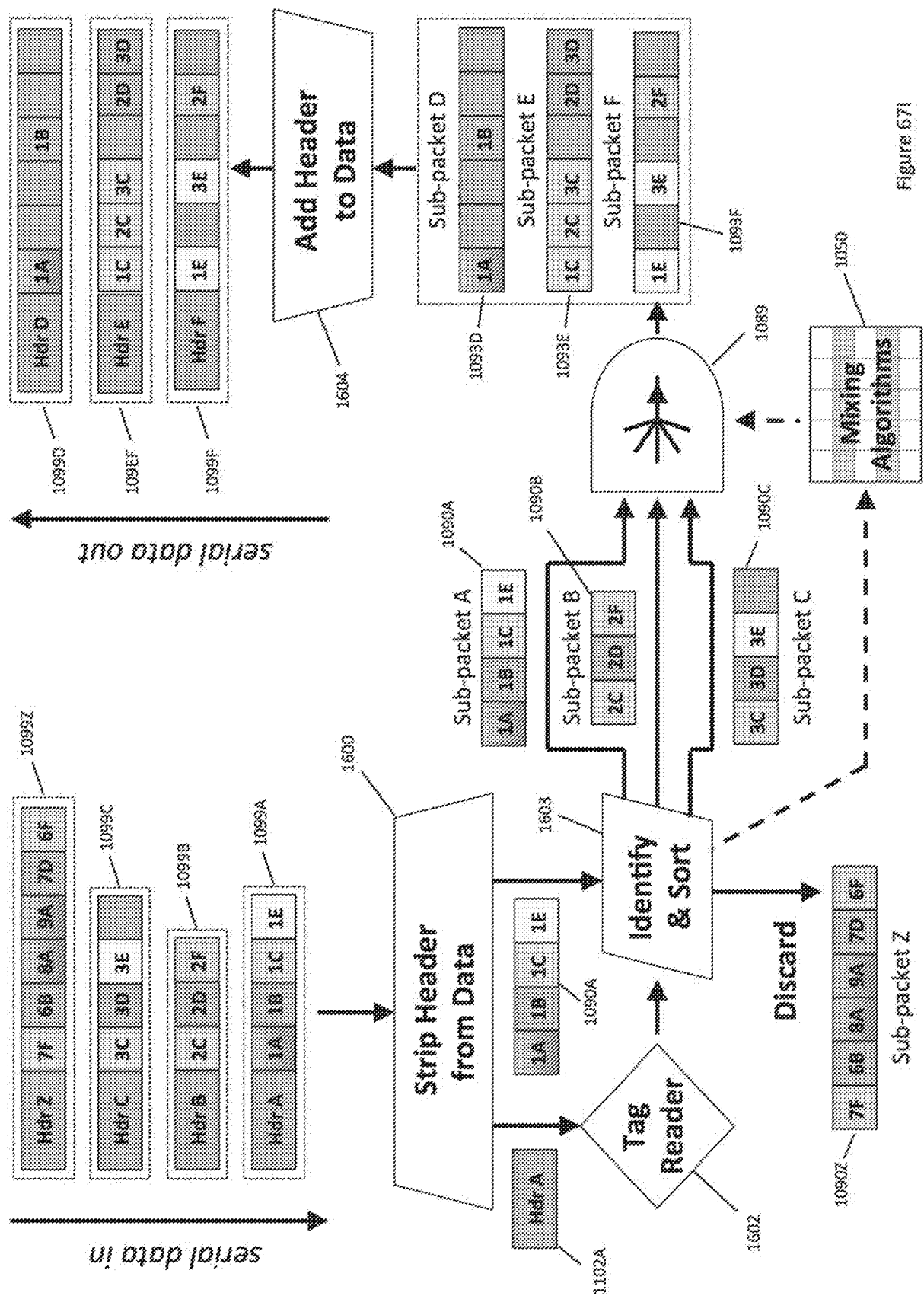


Figure 67H



2000

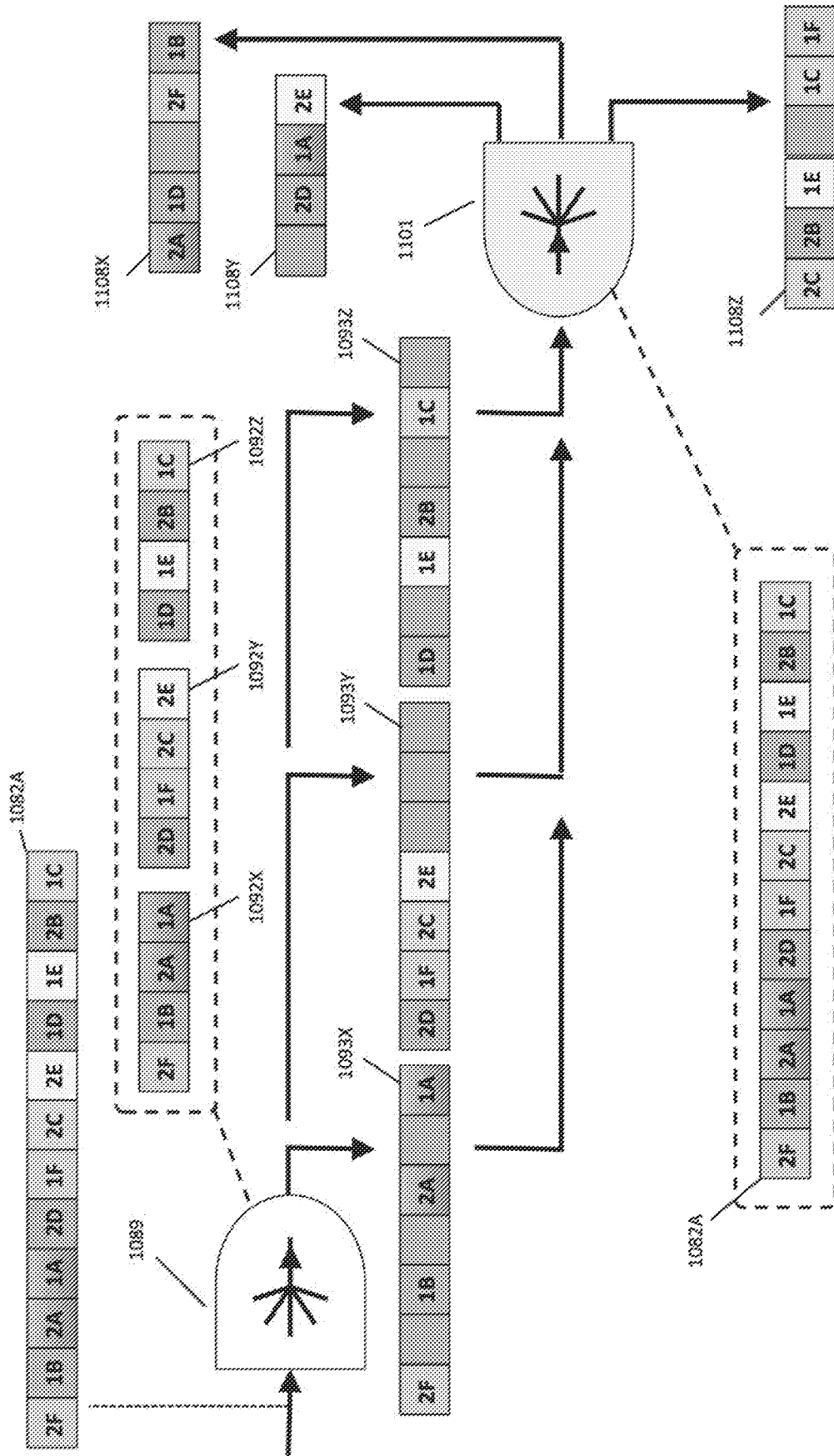
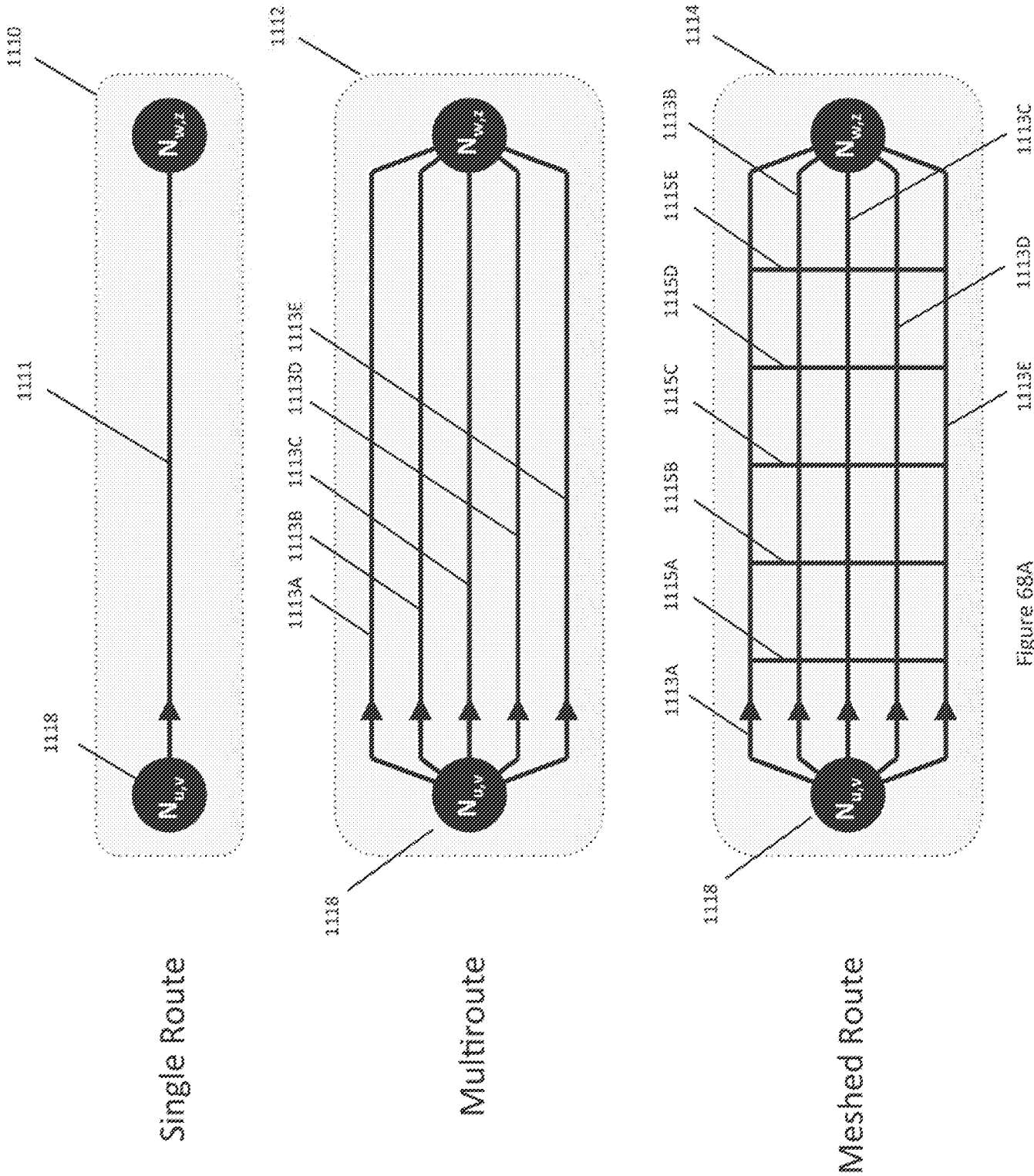


Figure 67J



1110

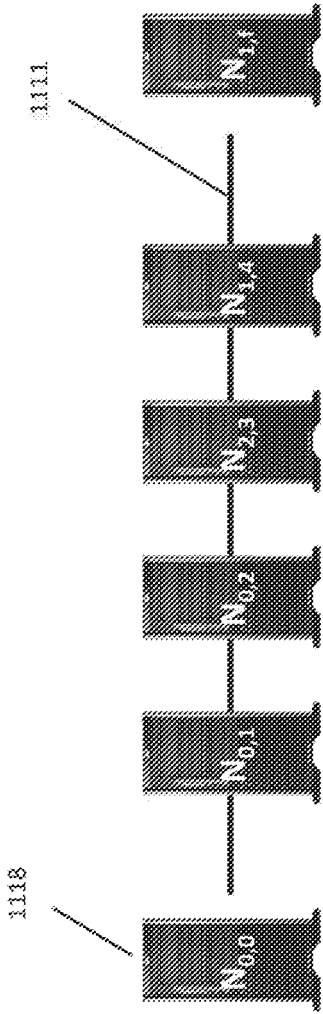


Figure 638

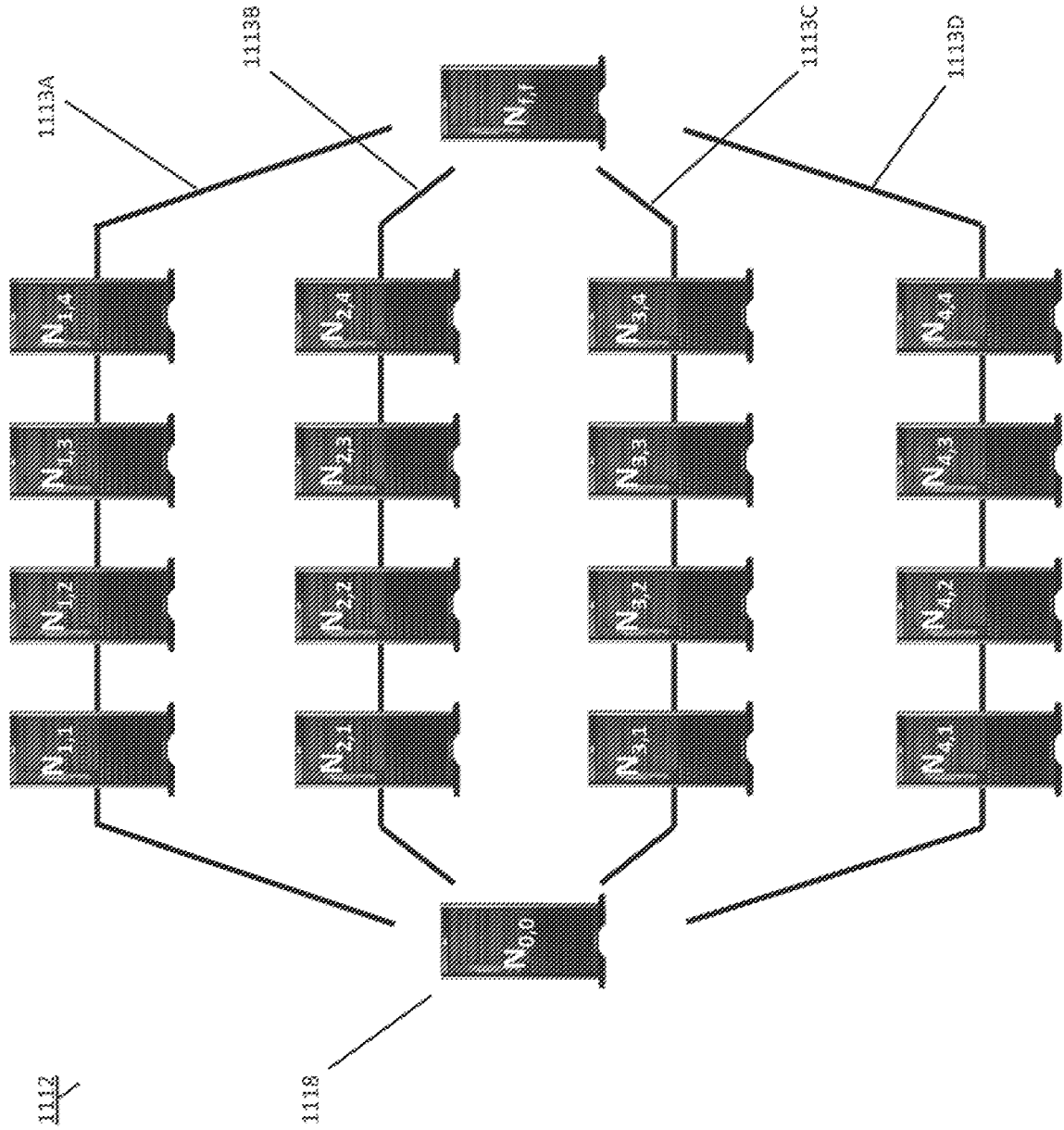


Figure 68C

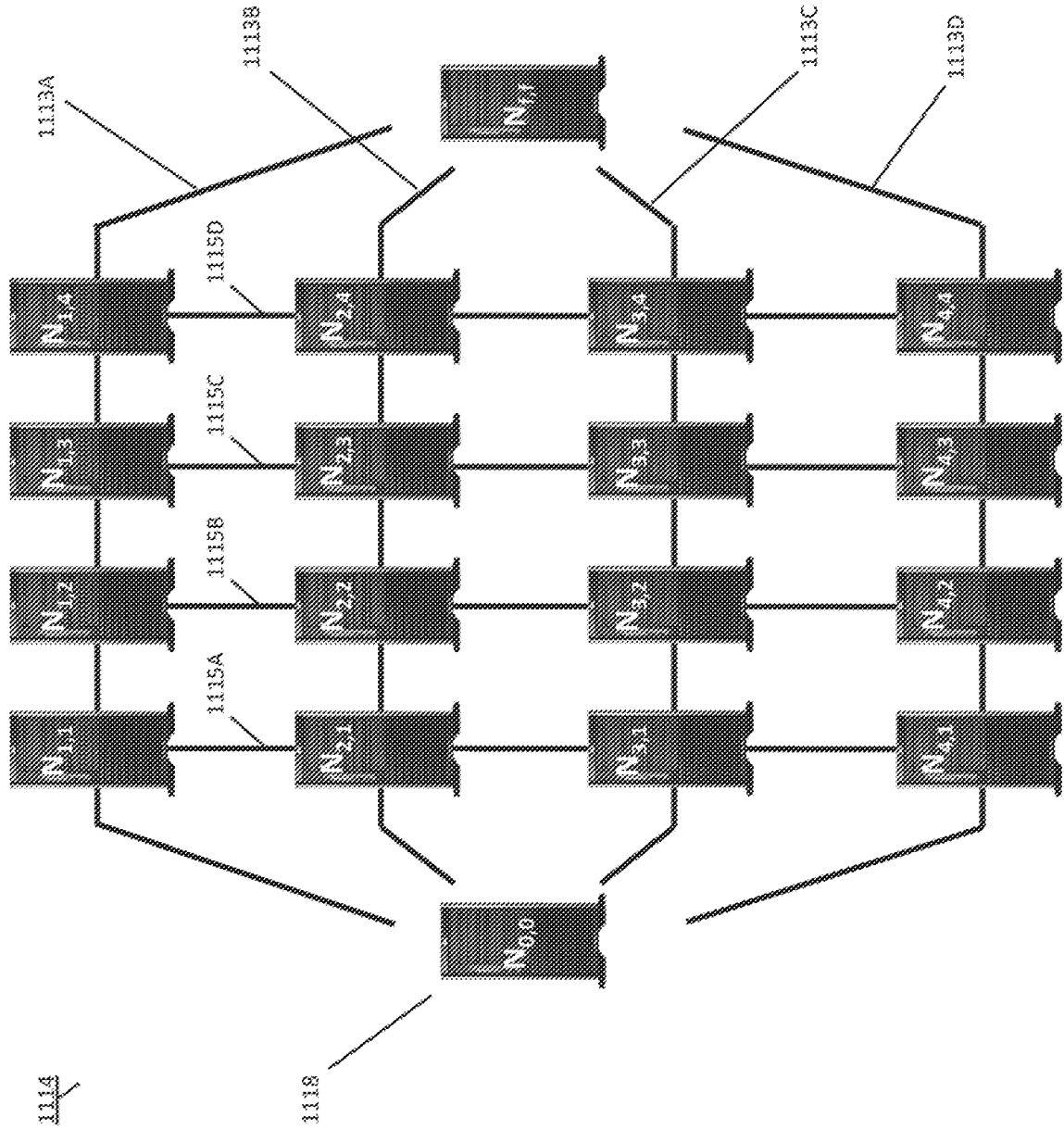


Figure 68D

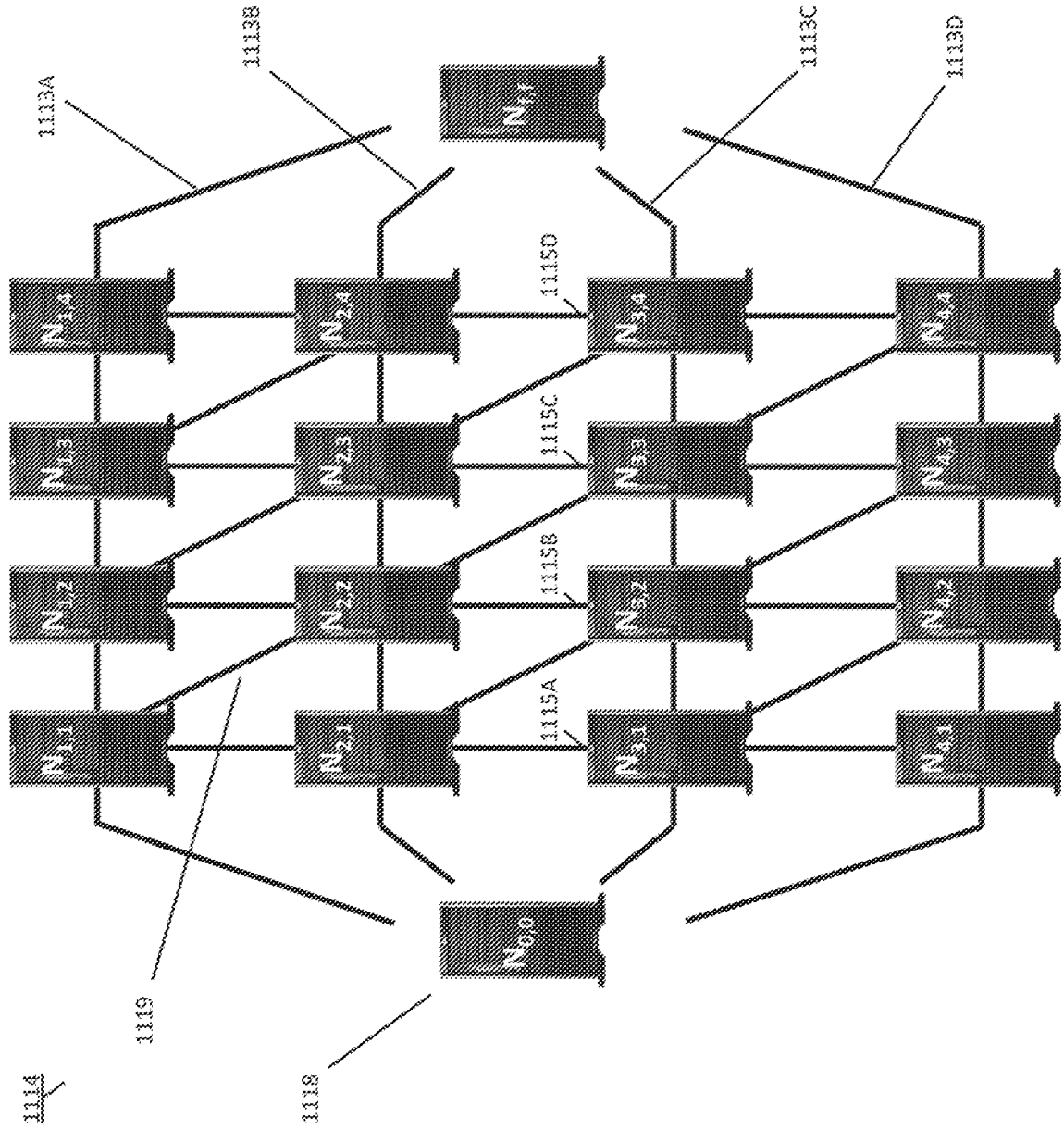


Figure 68E

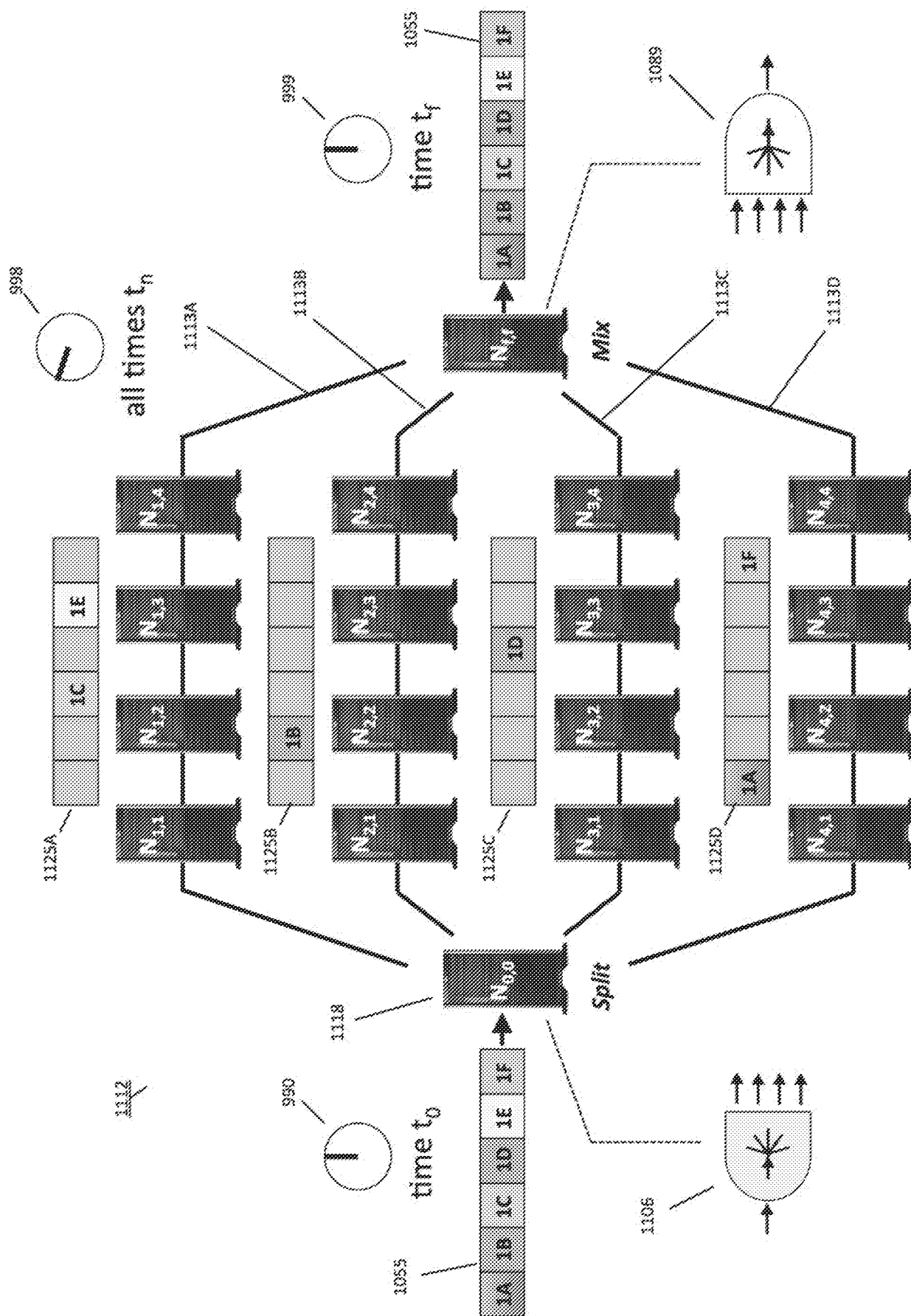


Figure 69

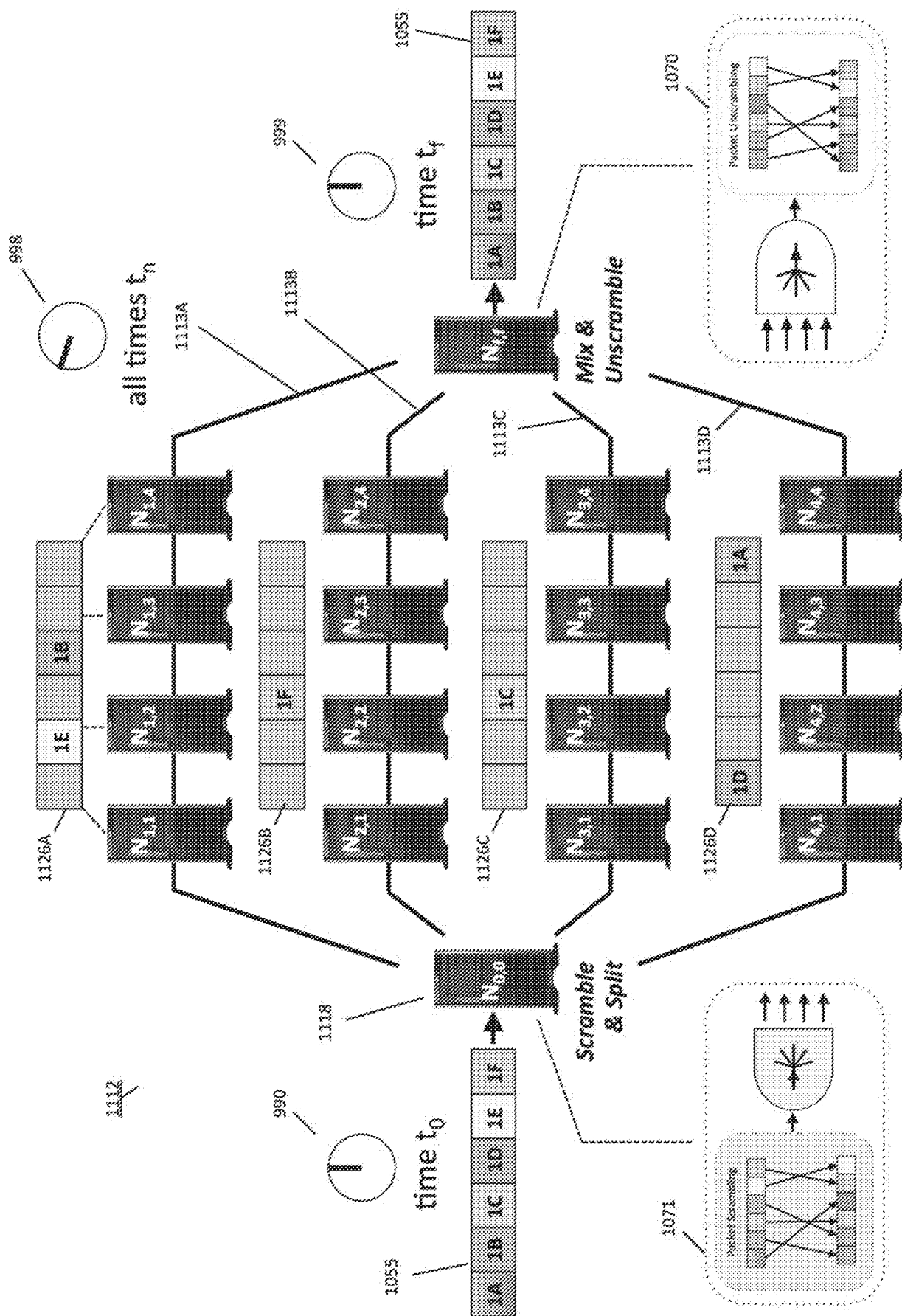


Figure 70

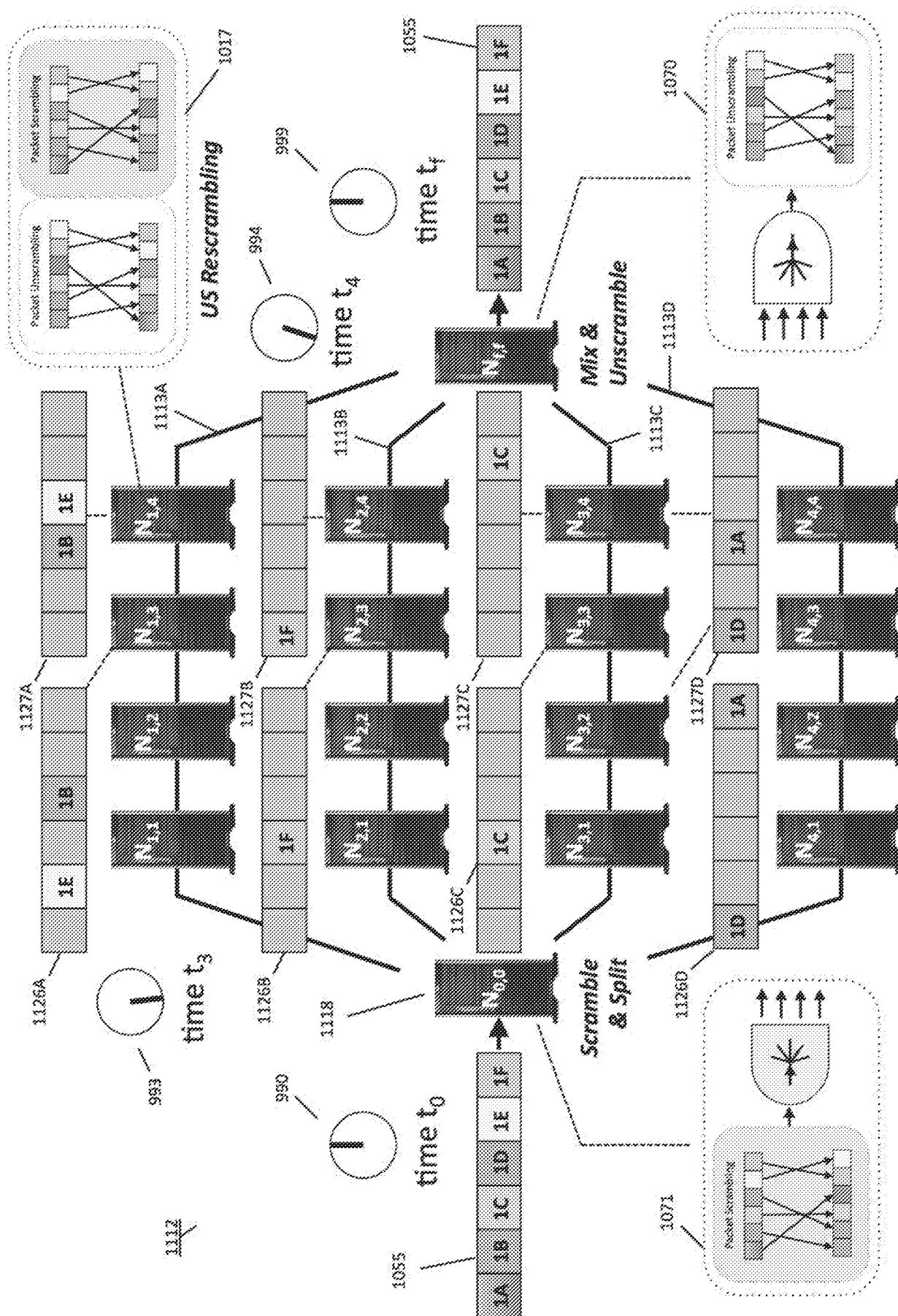


Figure 71A

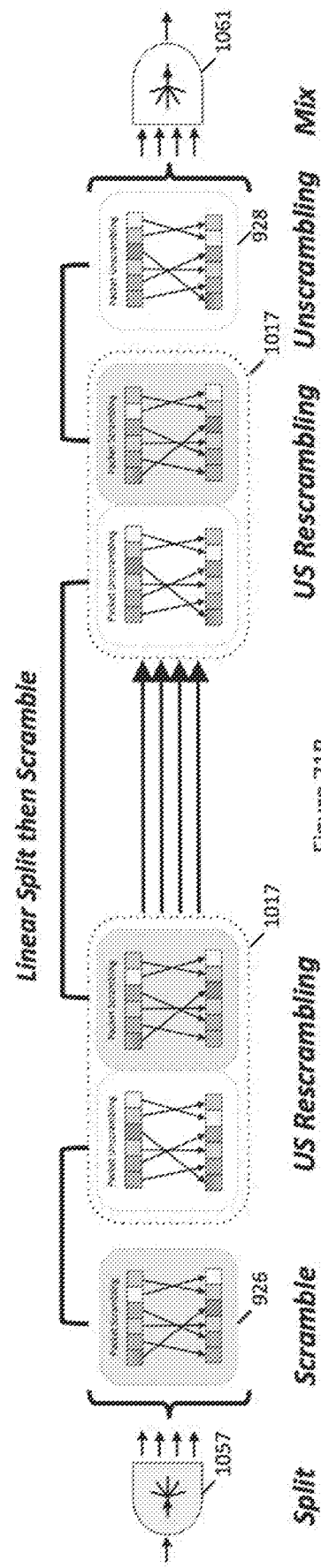
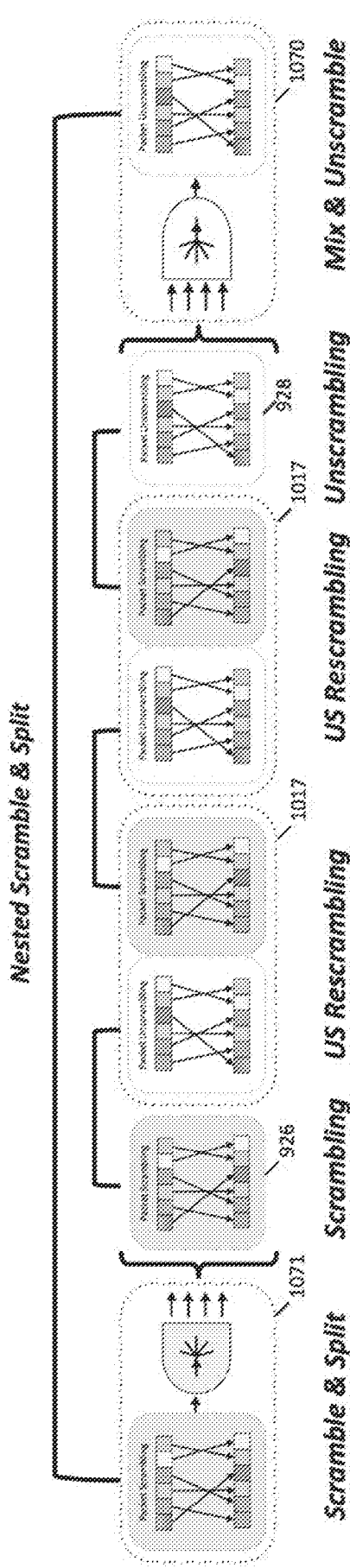
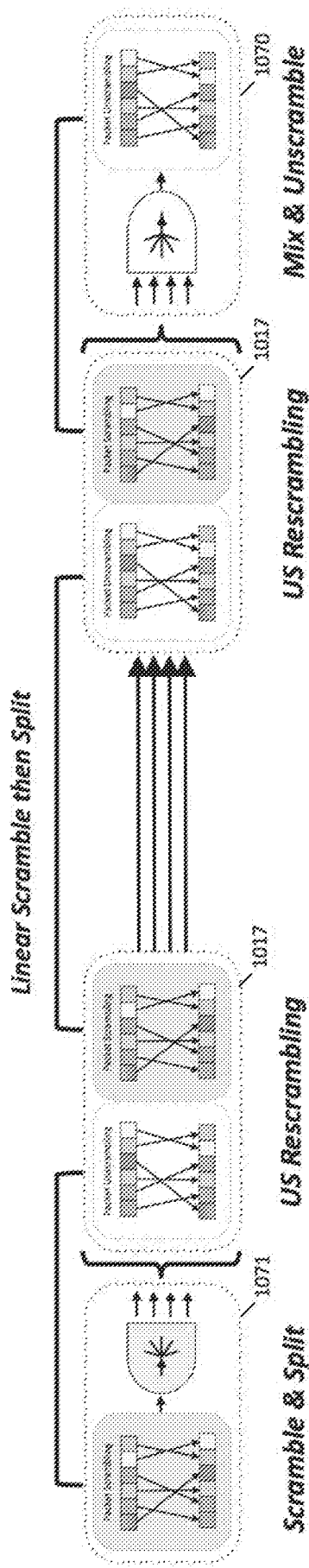


Figure 71B

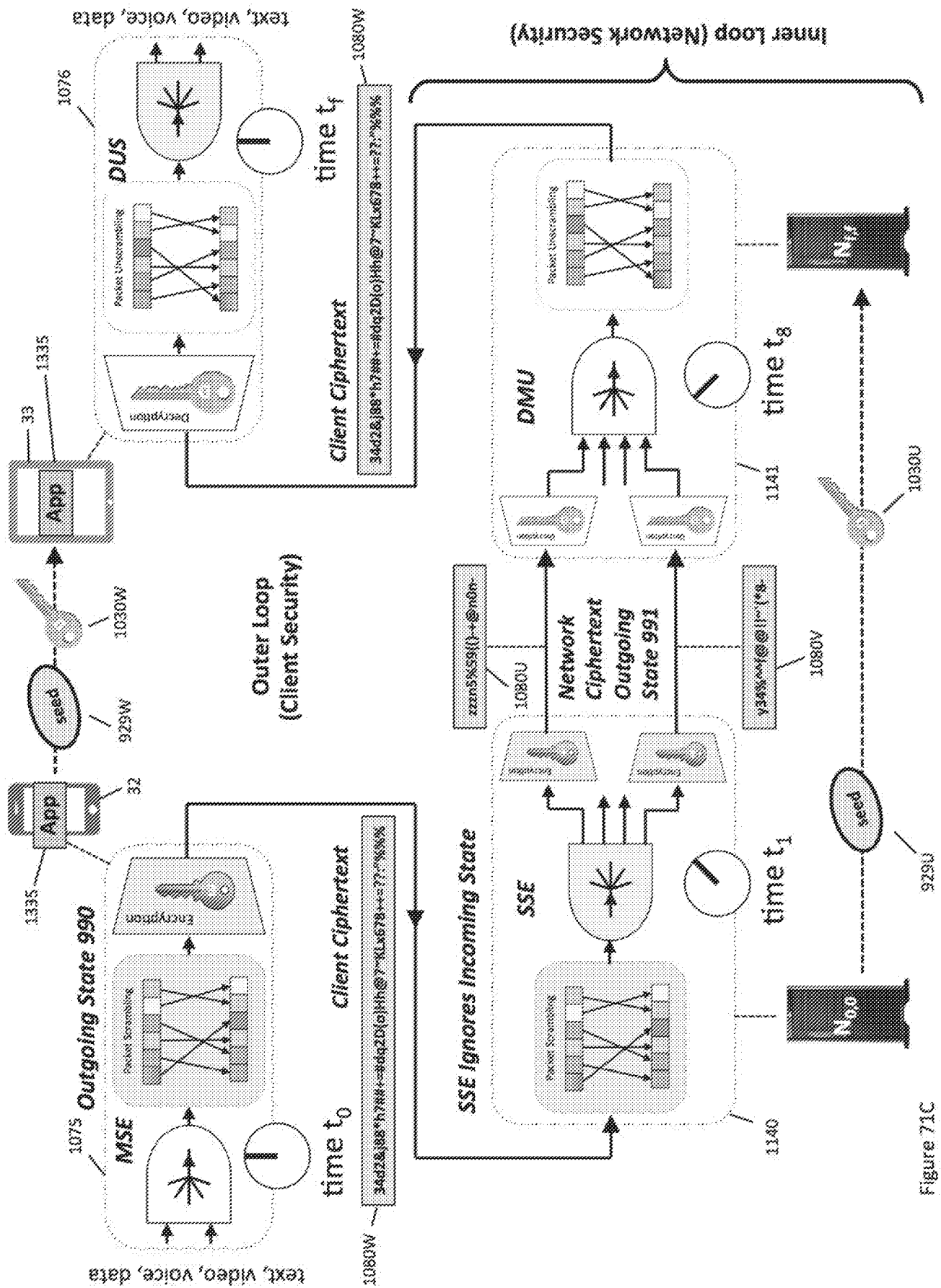


Figure 71C

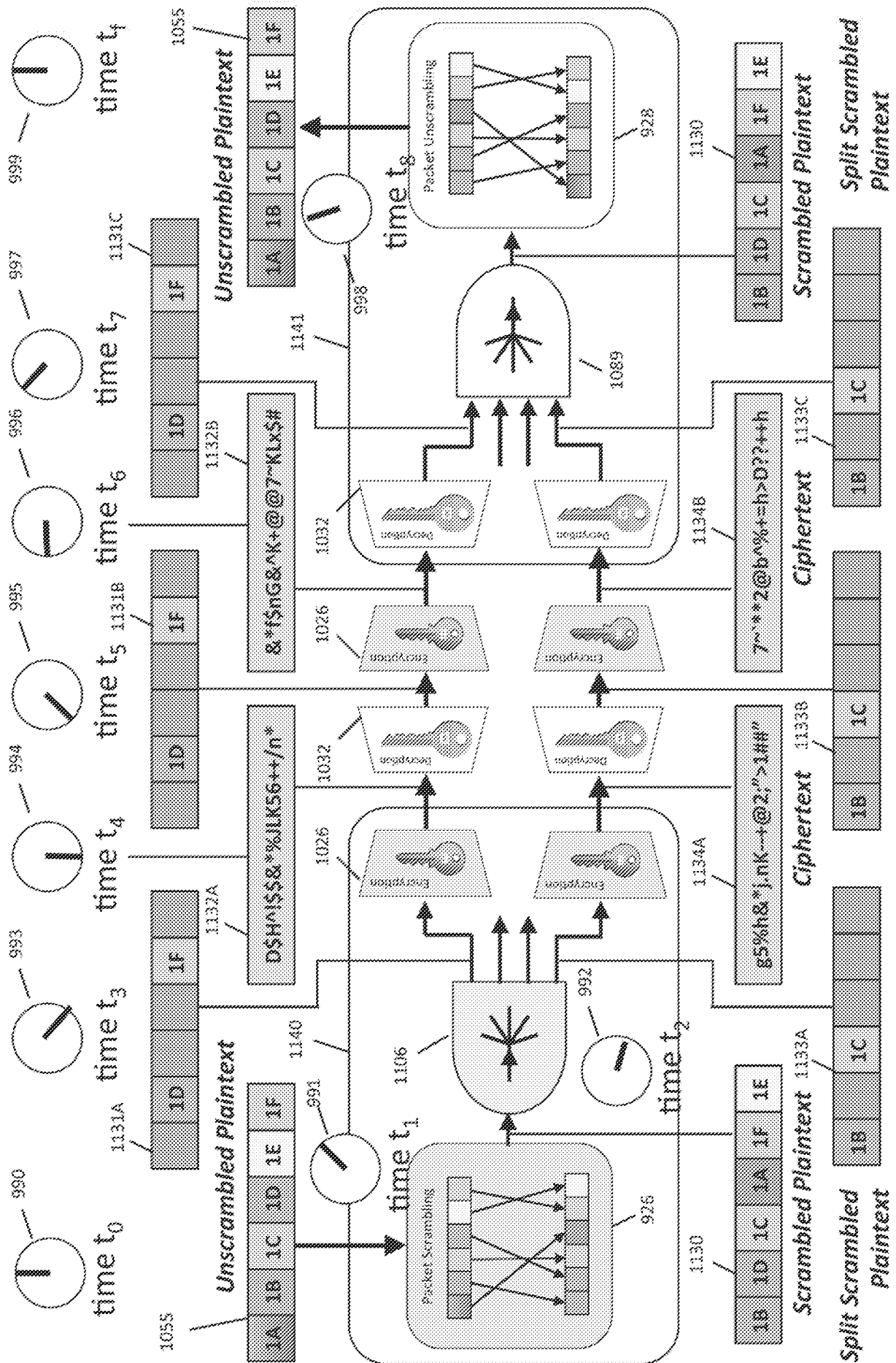


Figure 72

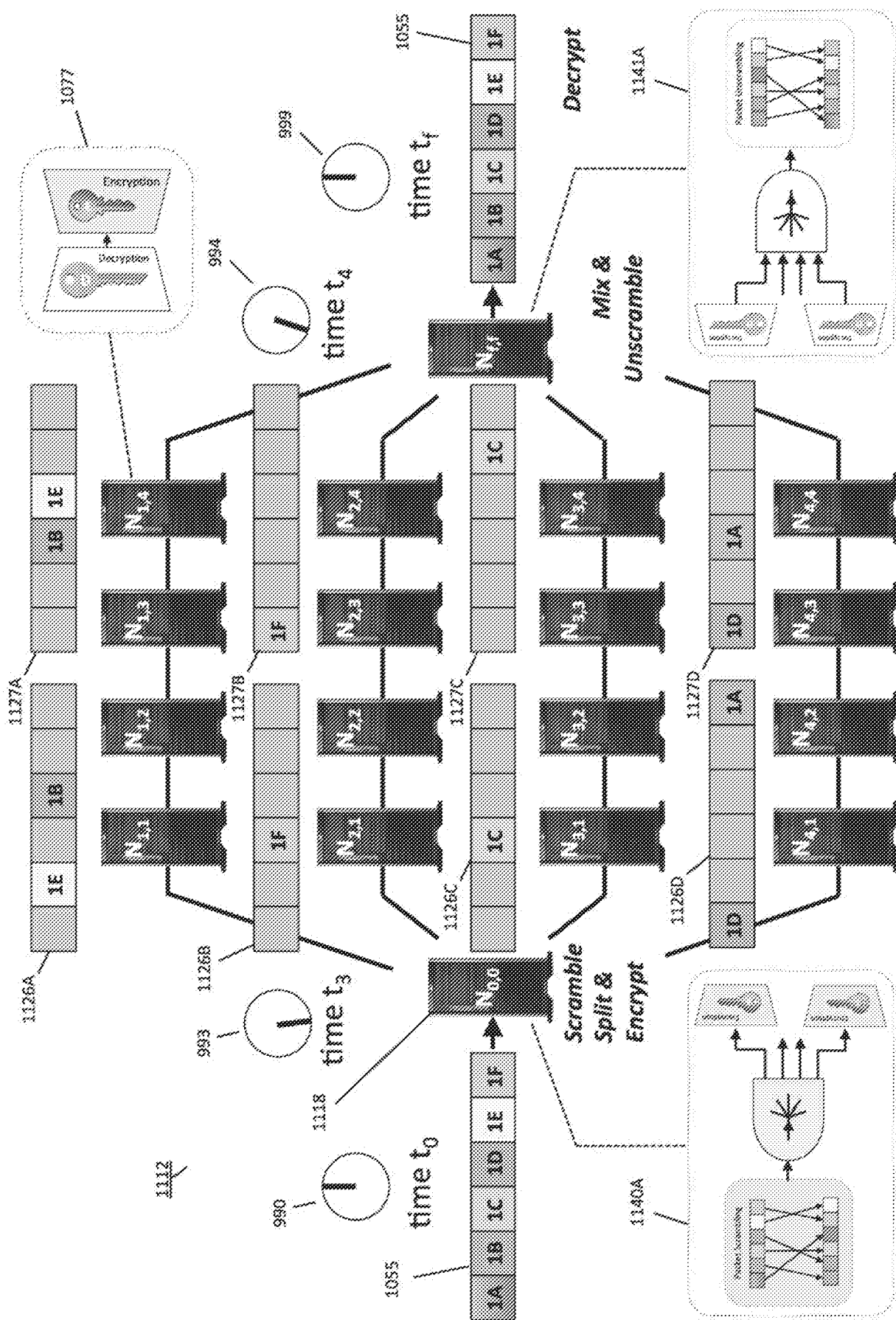


Figure 73

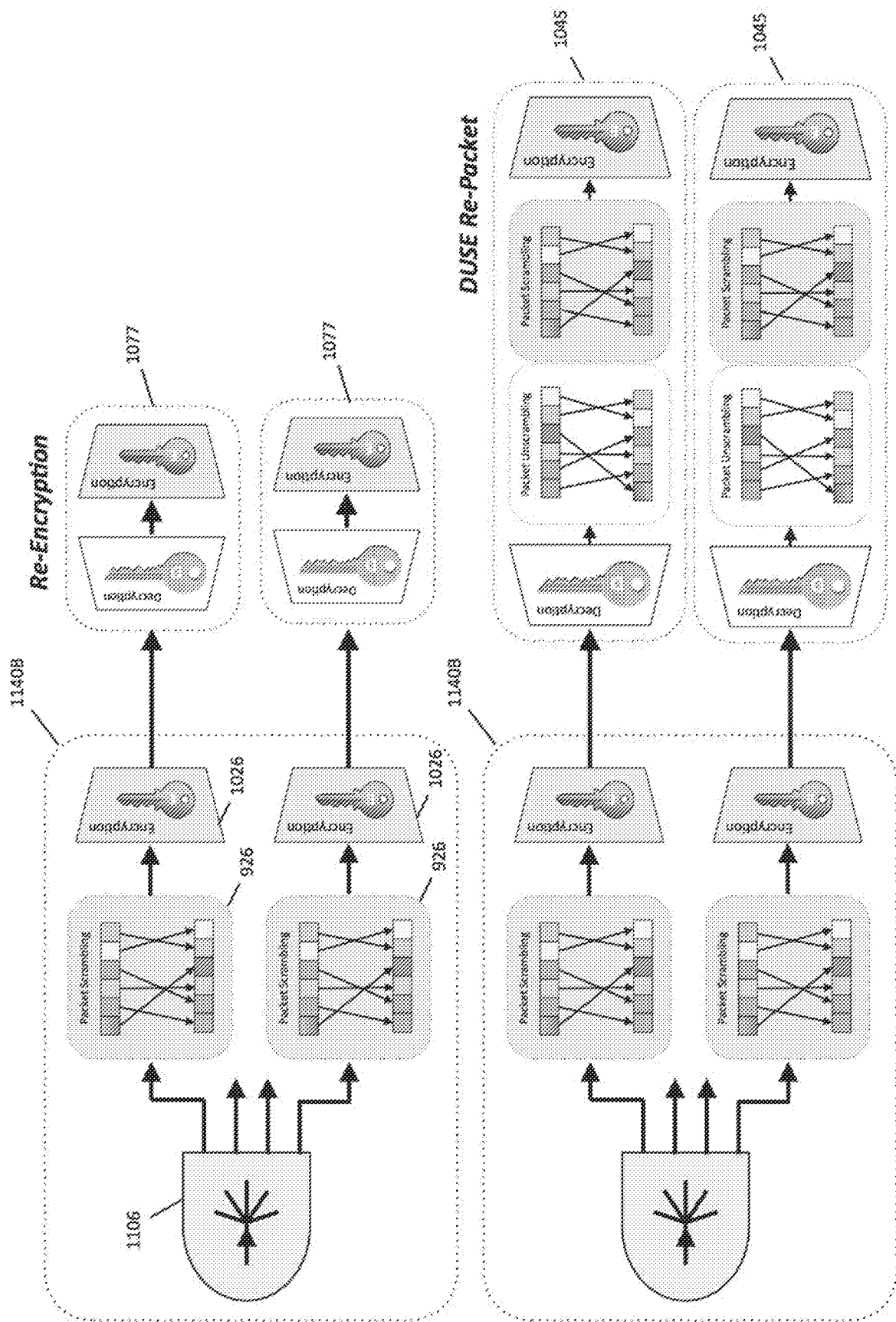


Figure 74

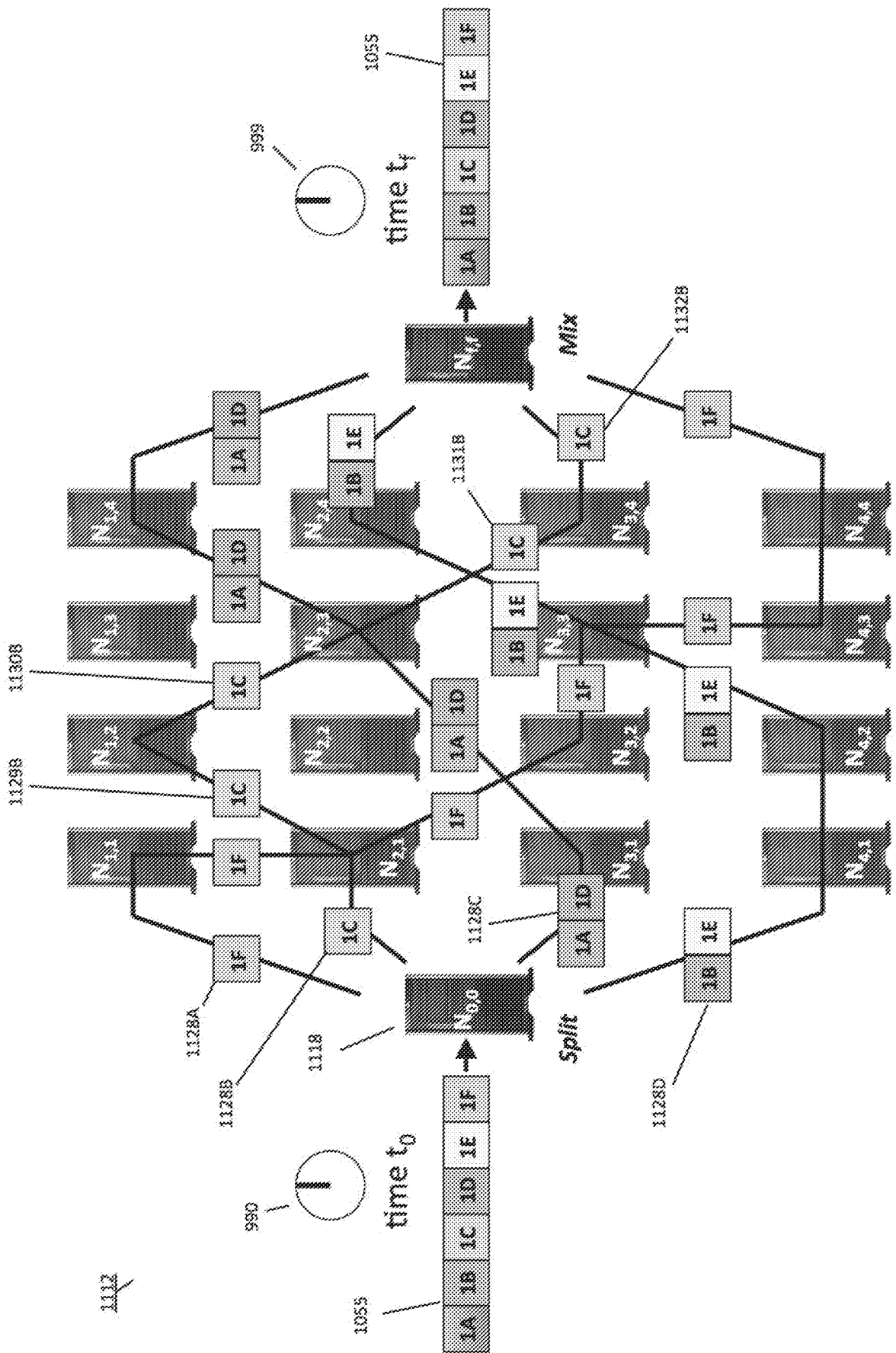


Figure 75

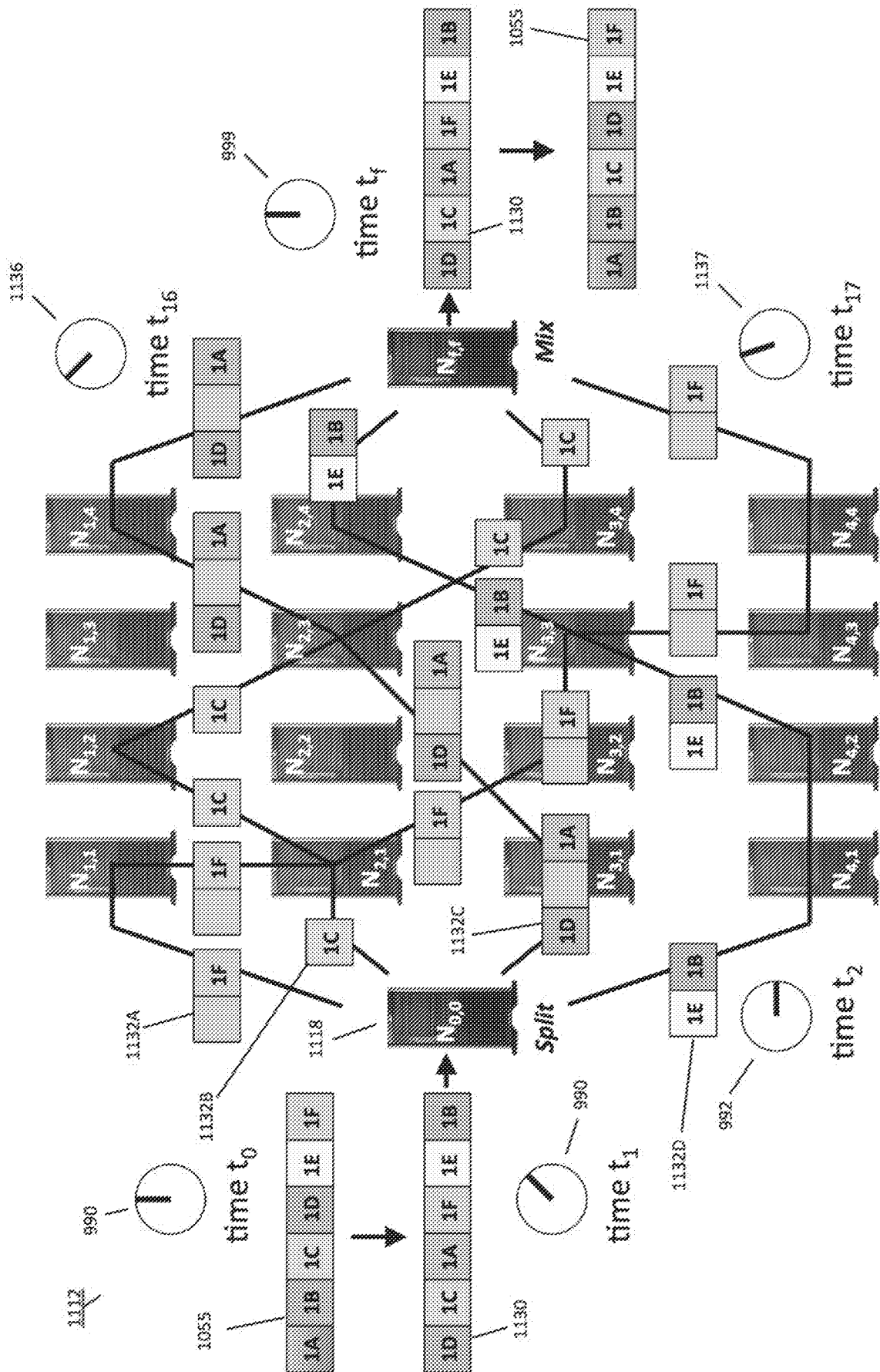


Figure 76

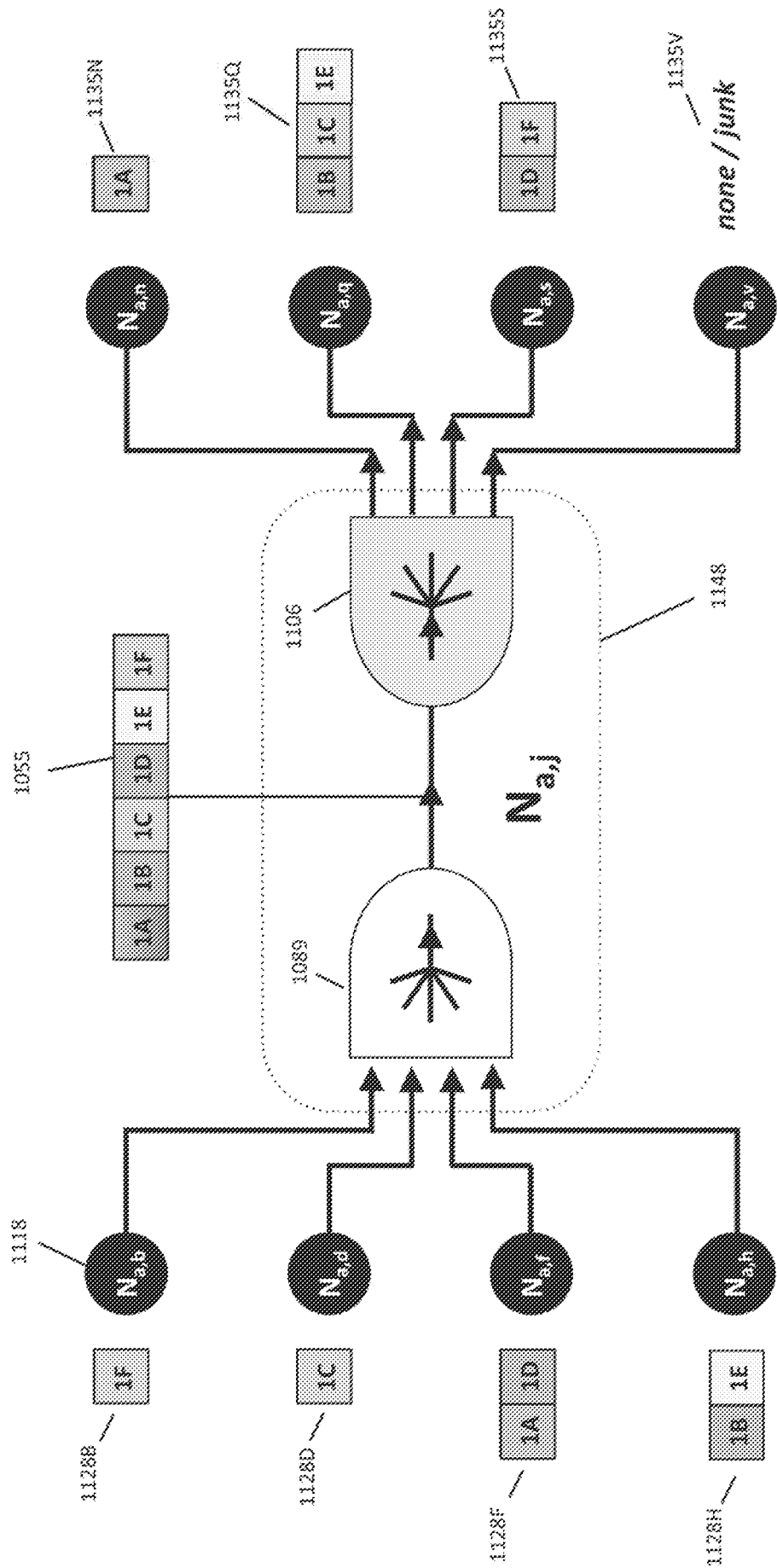


Figure 77A

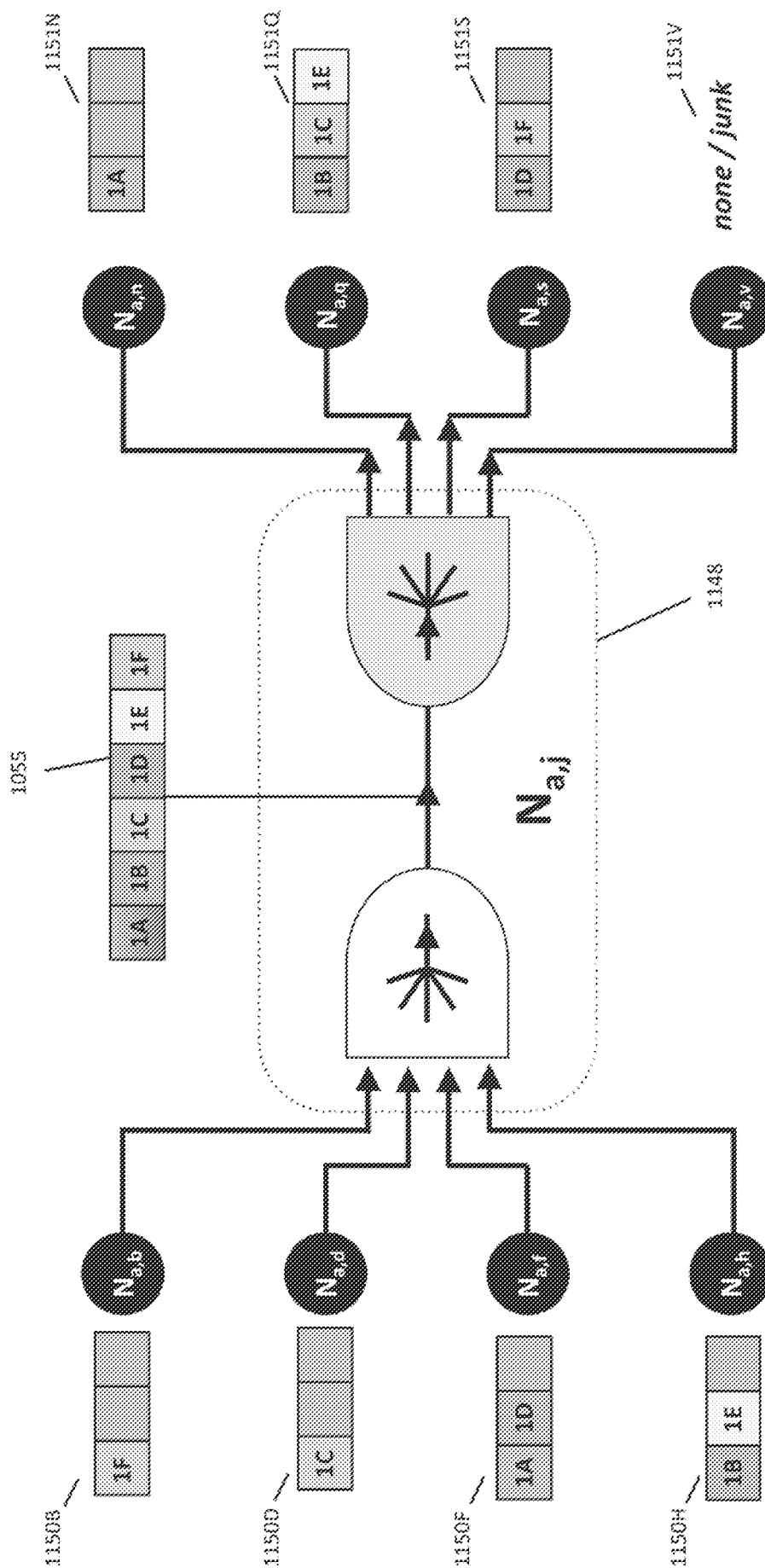


Figure 778

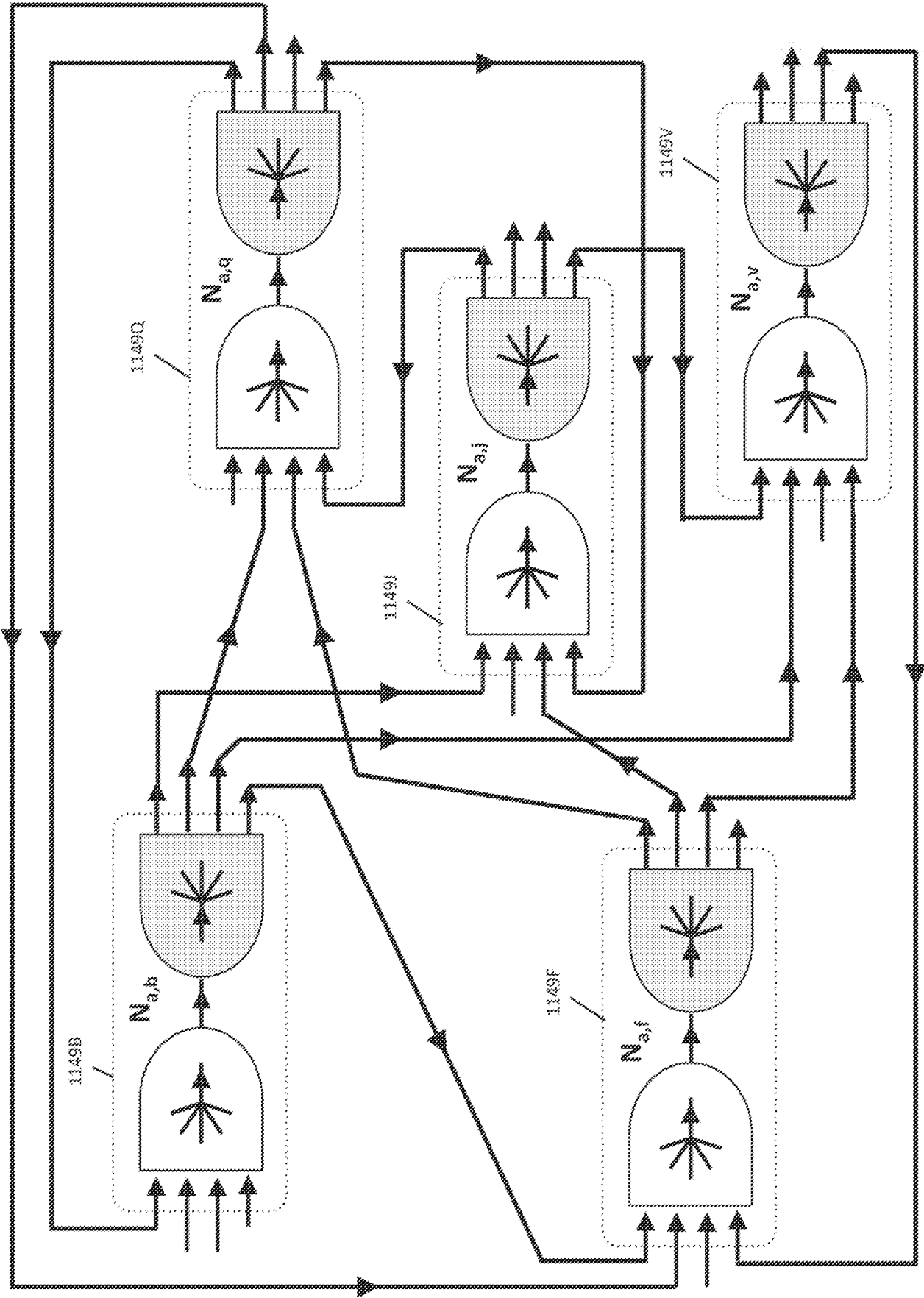


Figure 77C

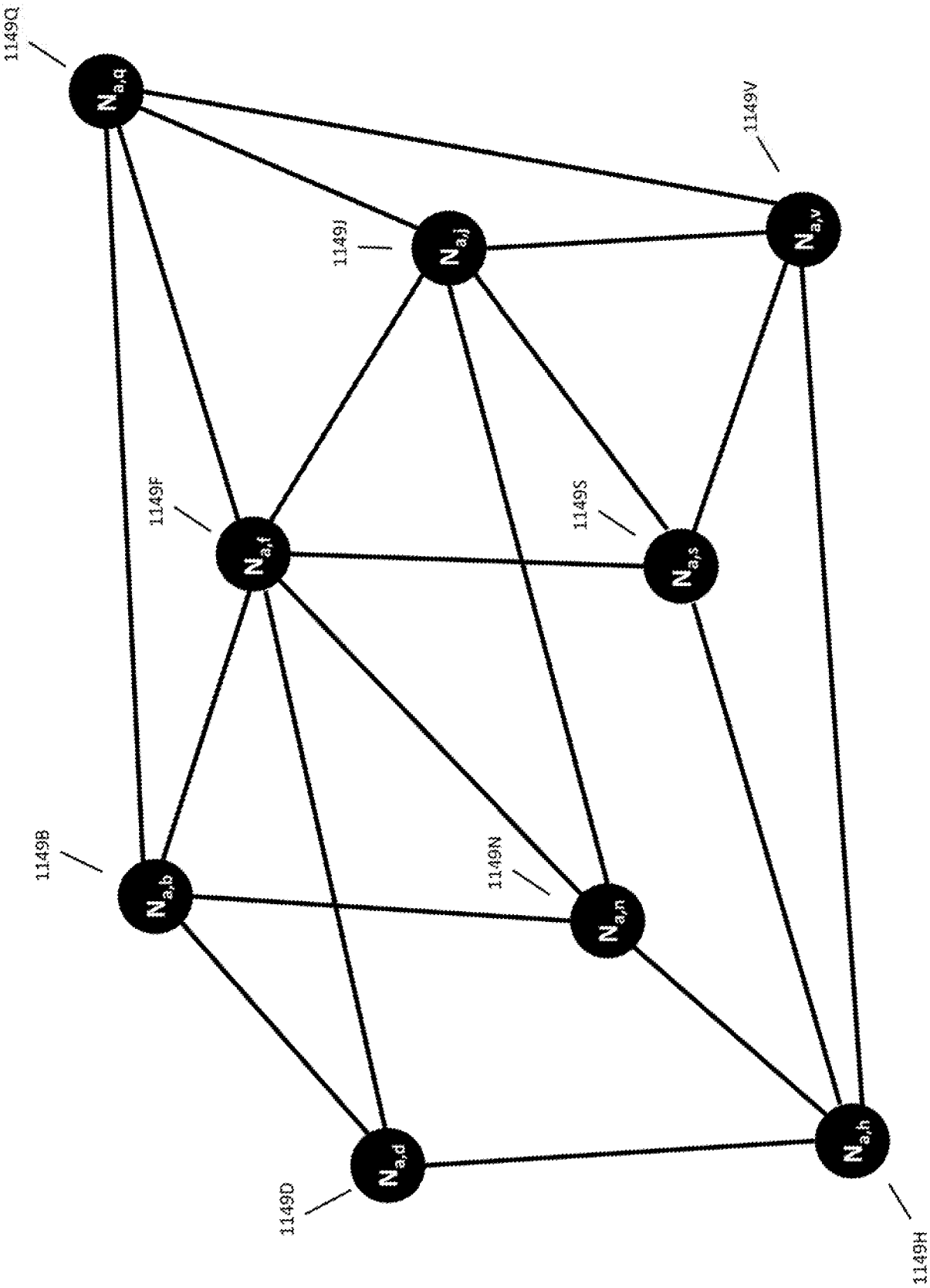


Figure 77D

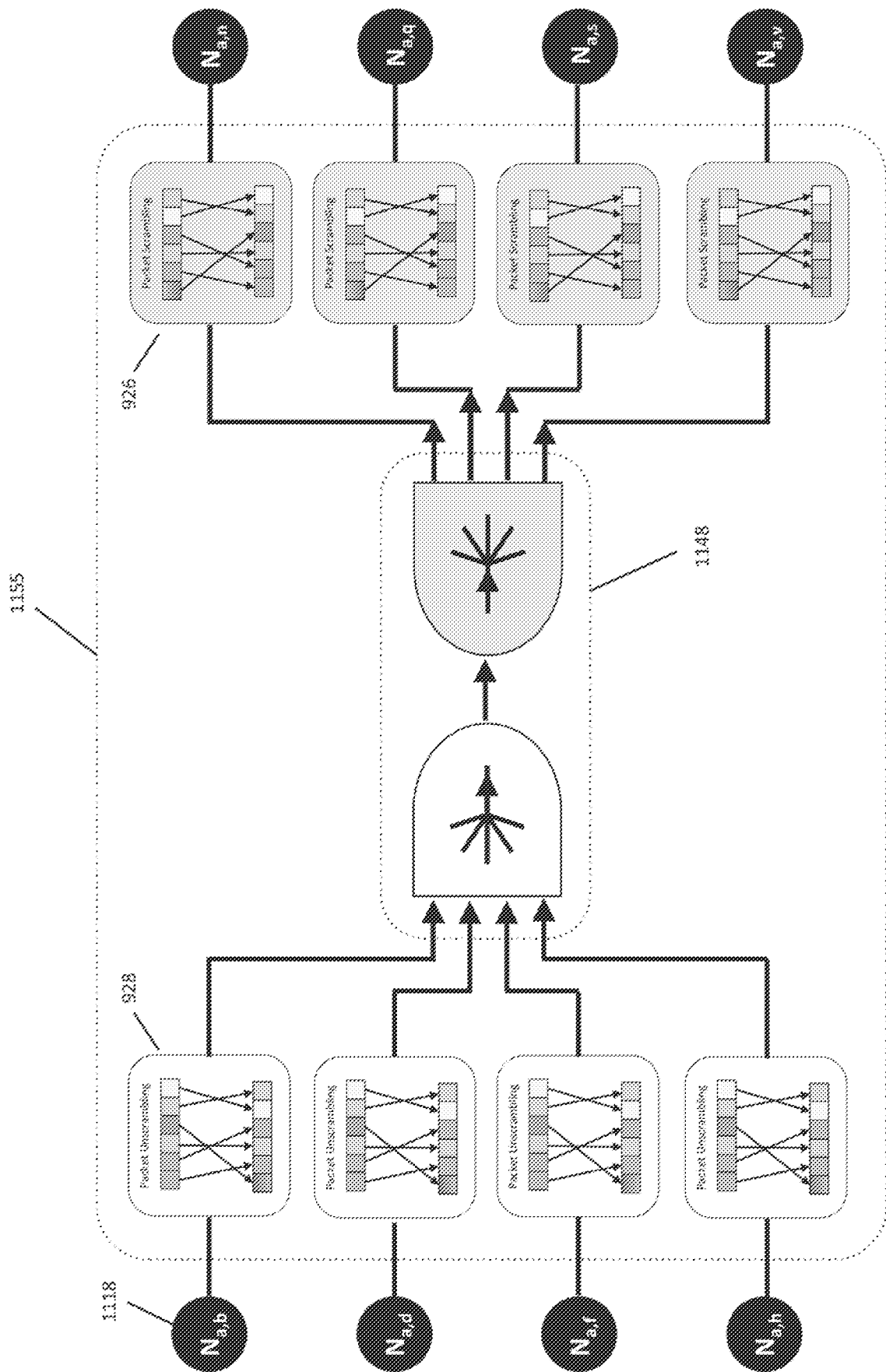
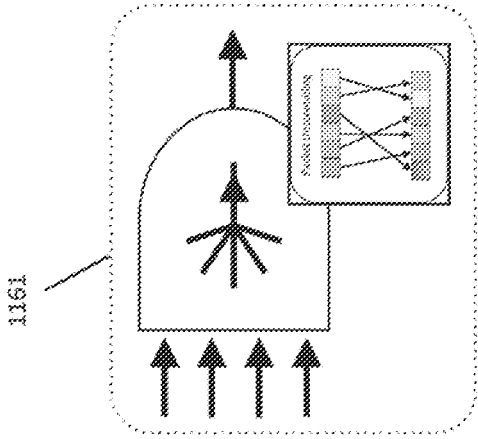


Figure 78A

Symbolic Representation



Nodal Input Functions

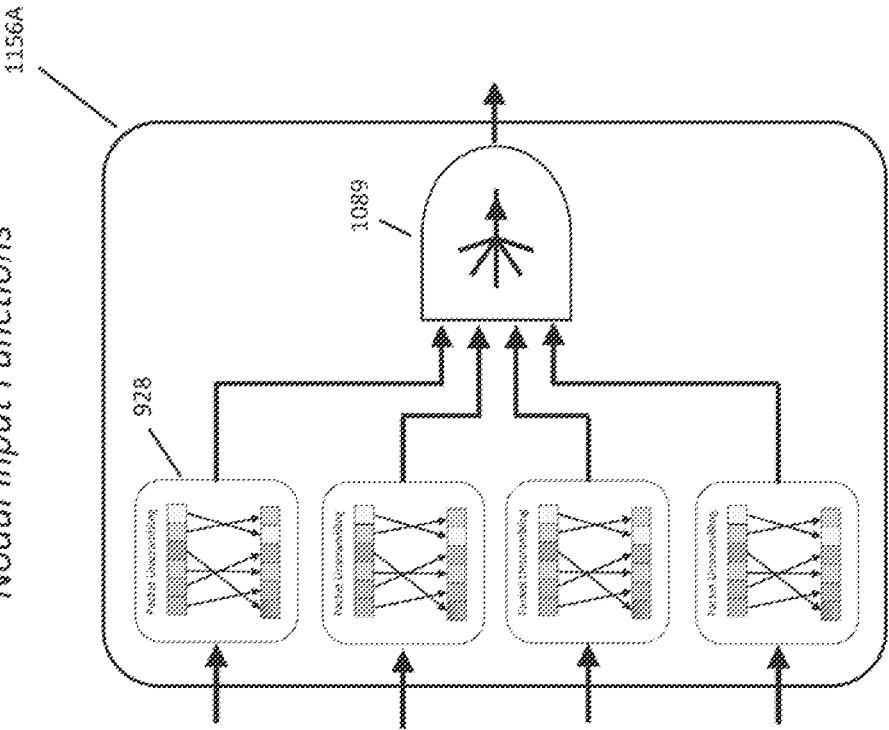


Figure 788

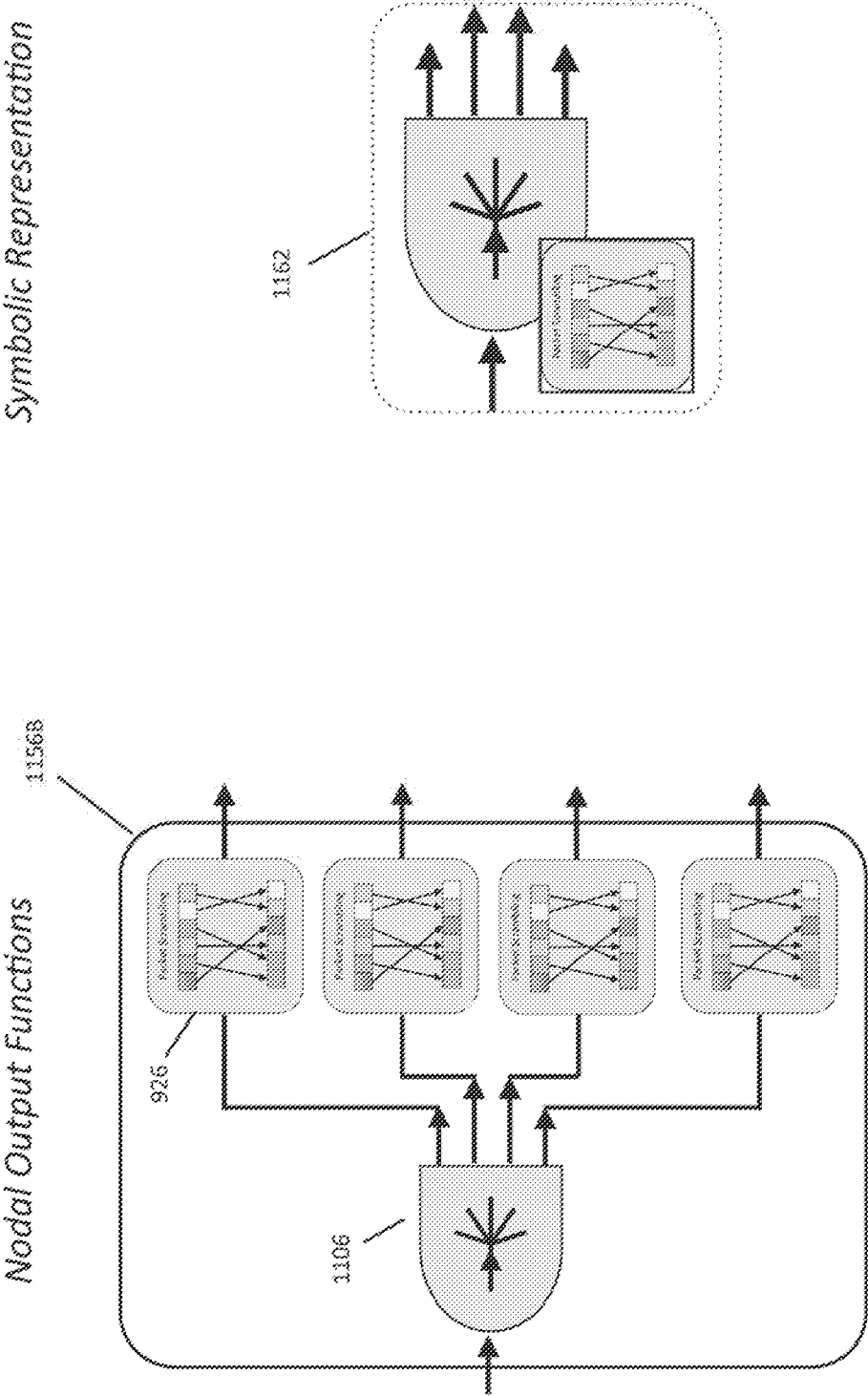


Figure 78C

Symbolic Representation

Nodal Input Functions

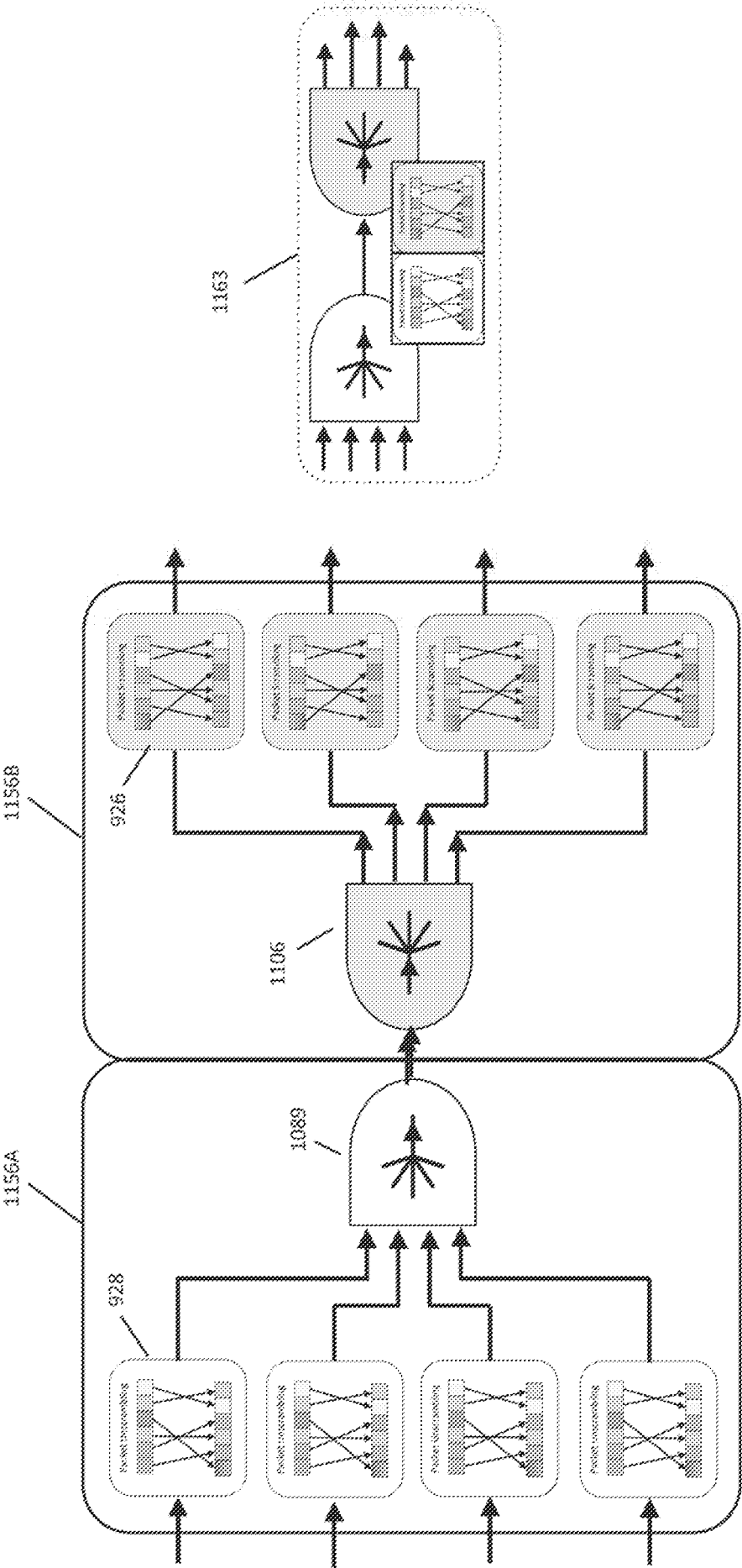


Figure 78D

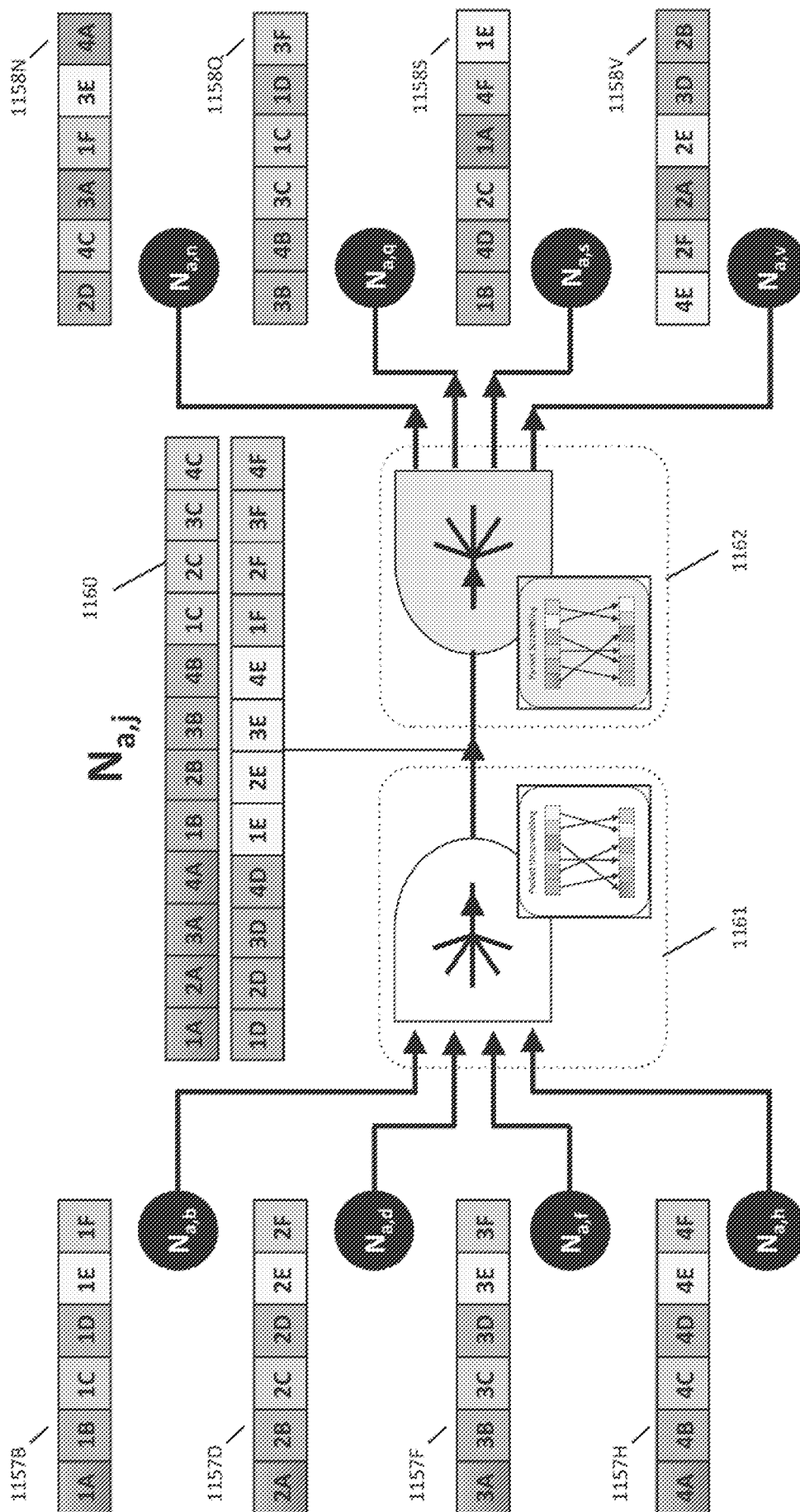


Figure 79A

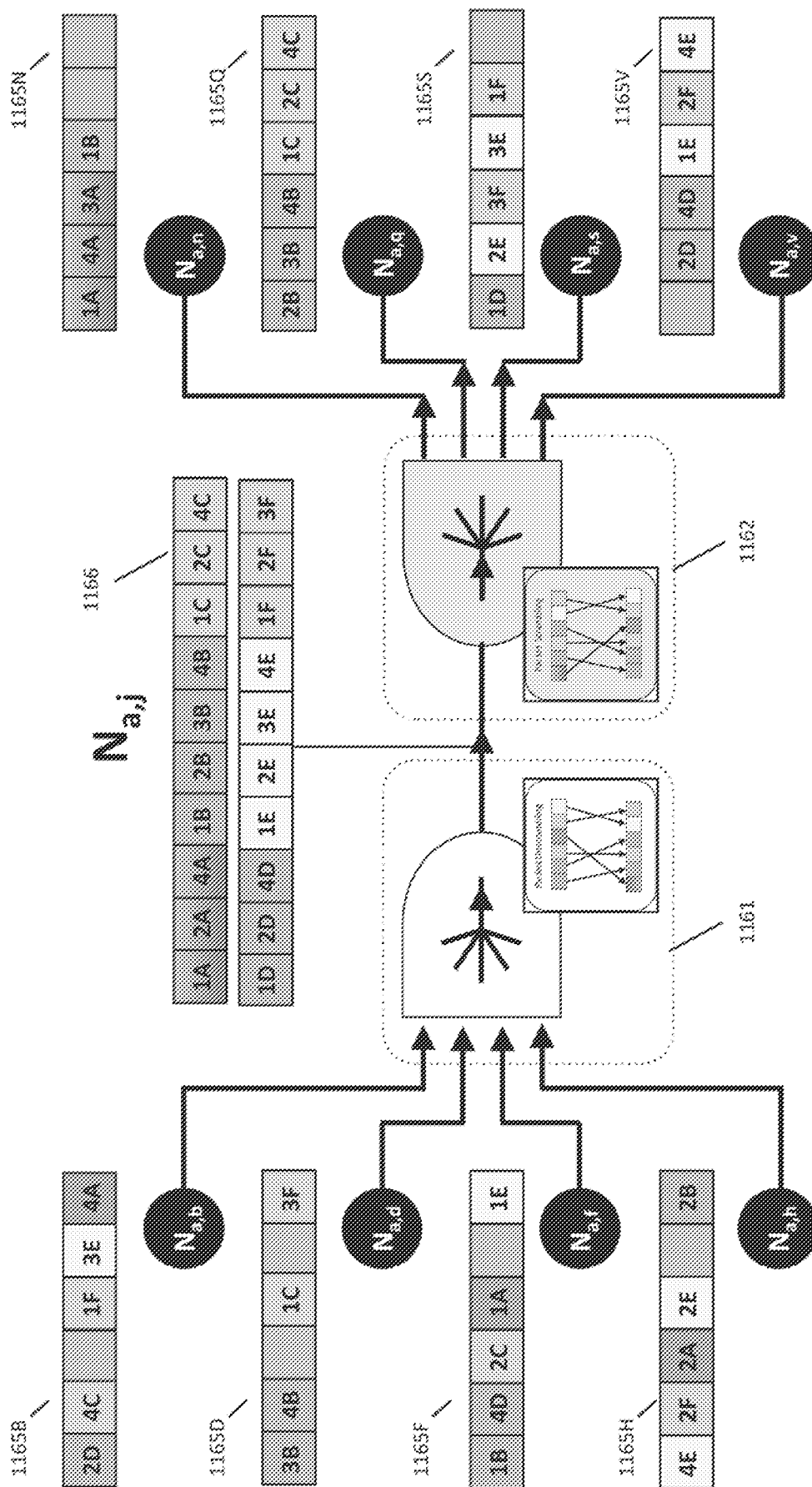
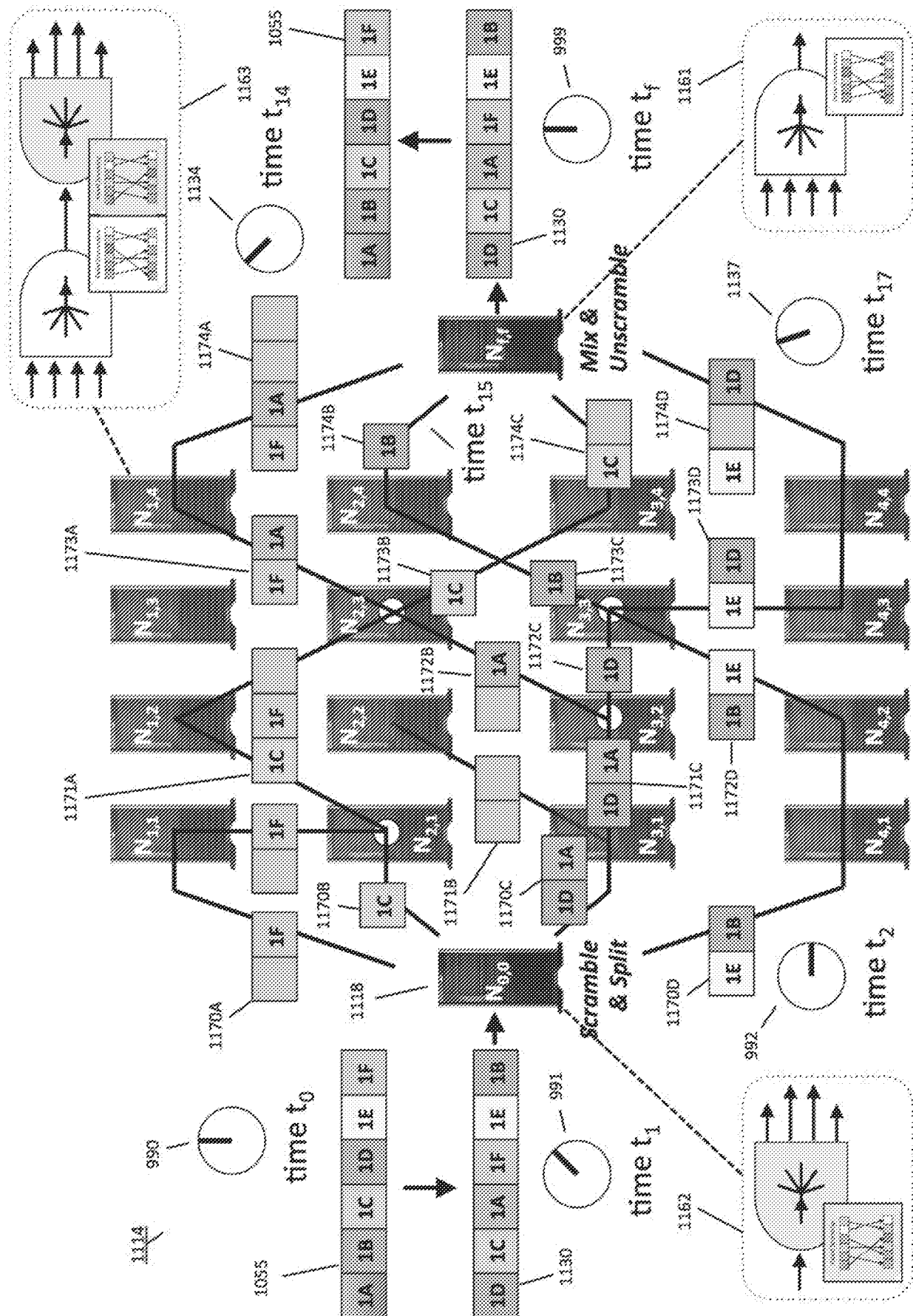


Figure 798



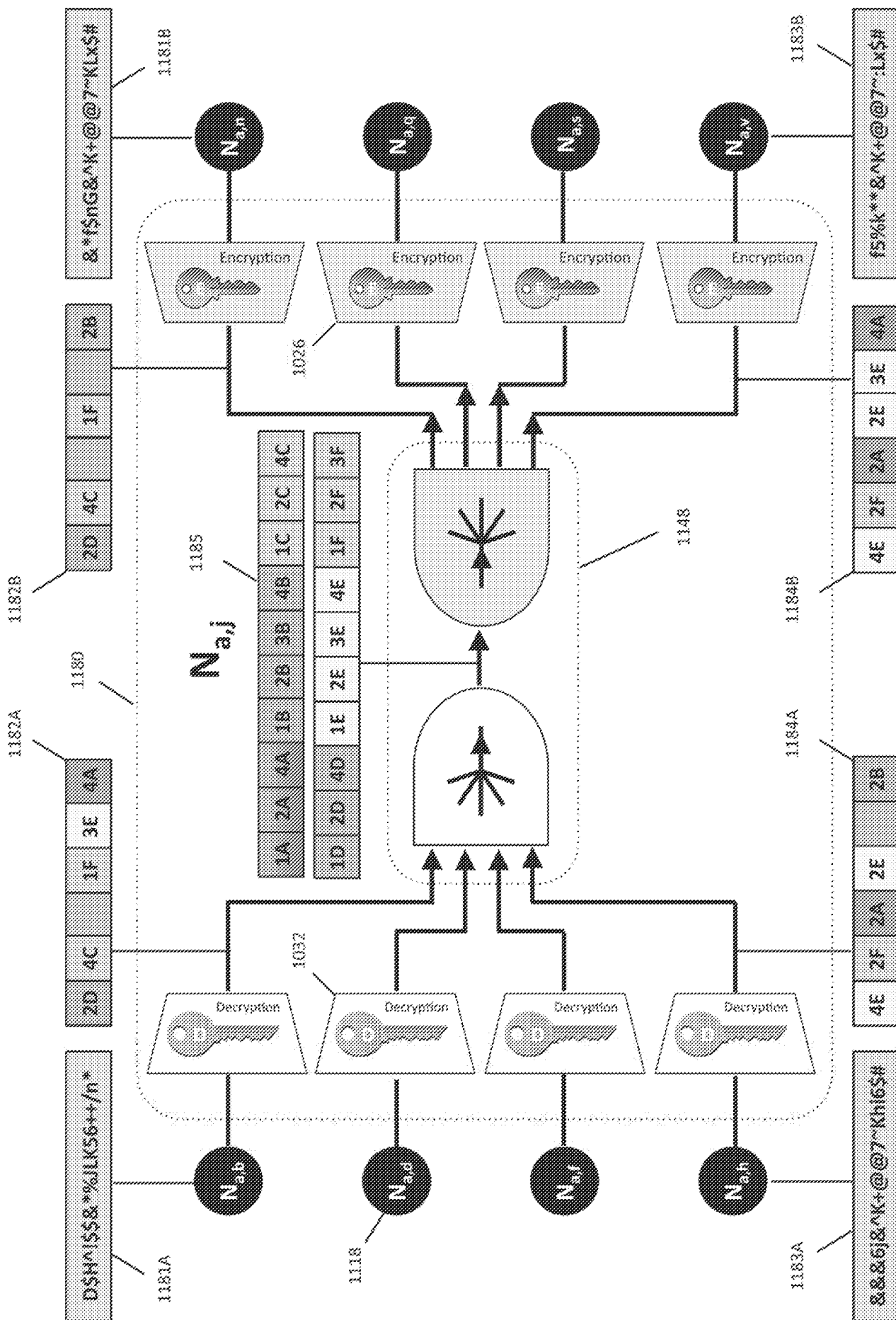
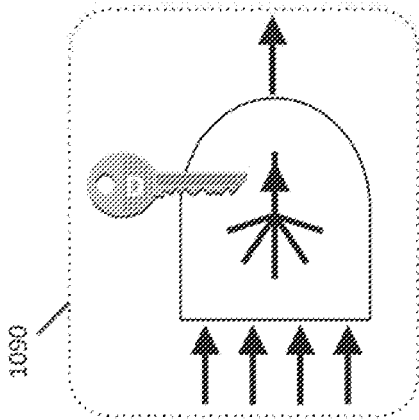


Figure 81A

Symbolic Representation



Nodal Input Functions

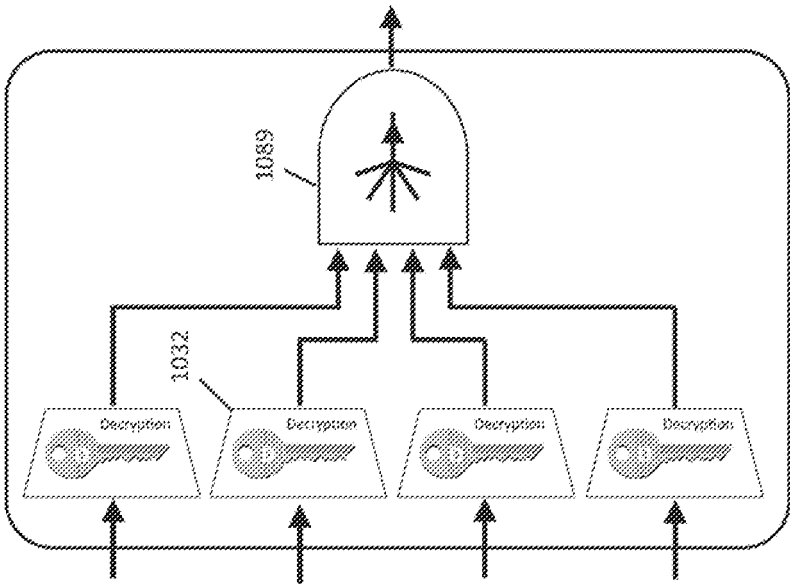
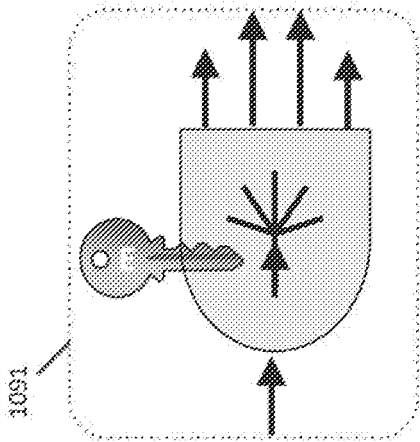


Figure 818

Symbolic Representation



Nodal Output Functions

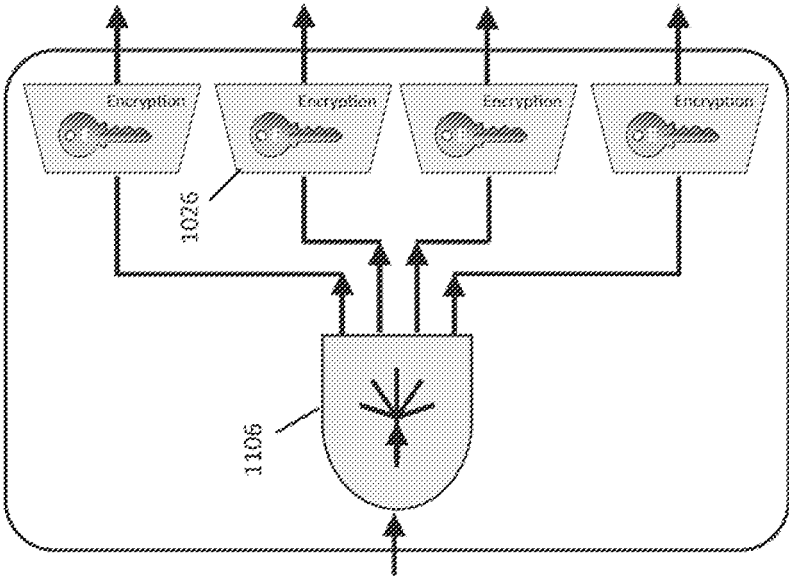


Figure 81C

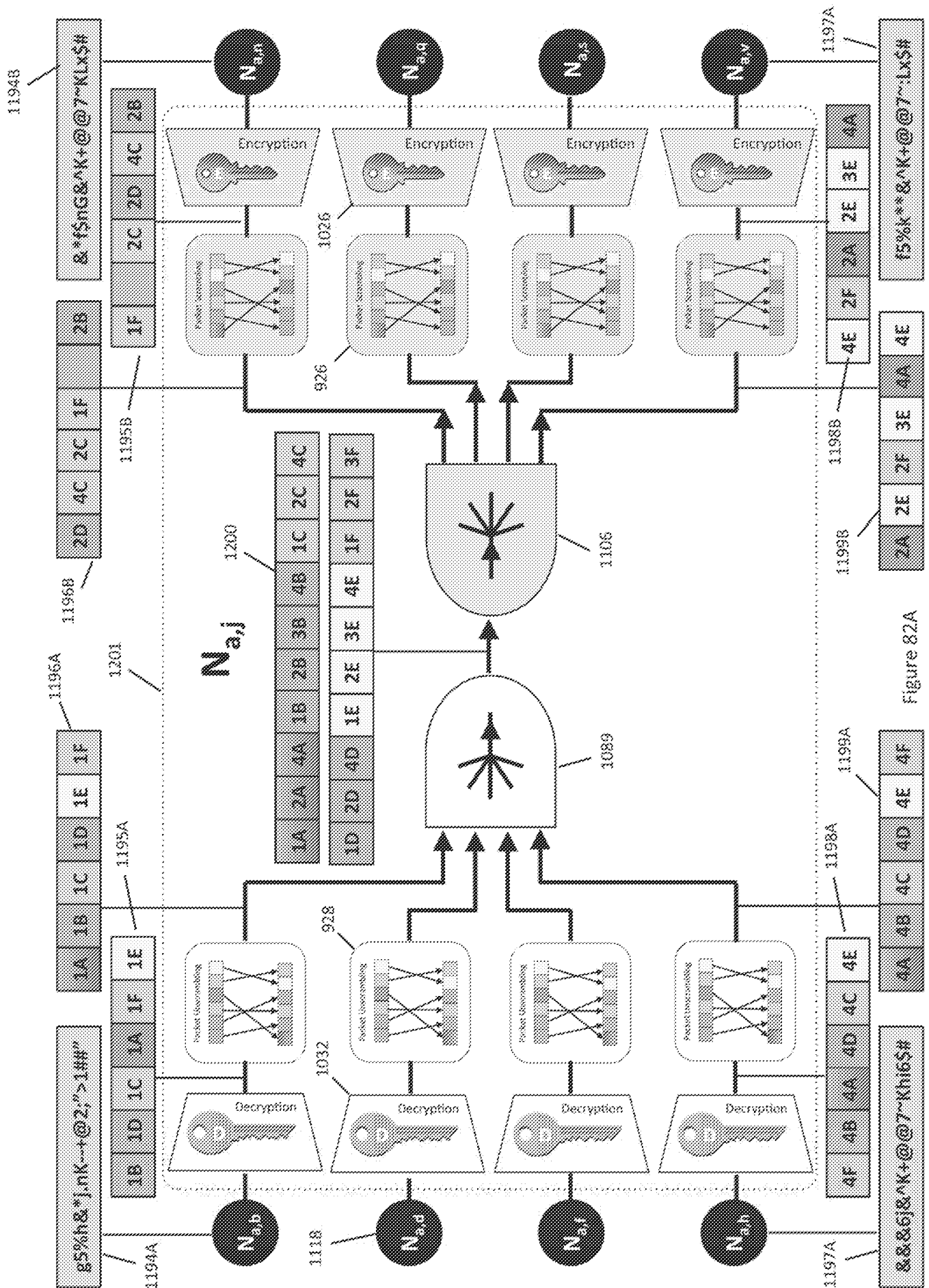
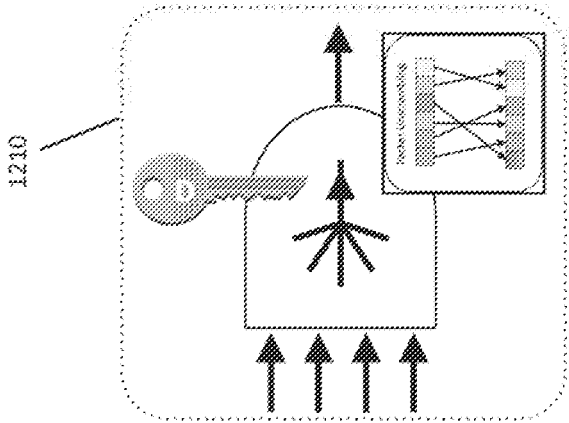


Figure 82A

DUM Symbolic Representation



DUM Nodal Input Functions

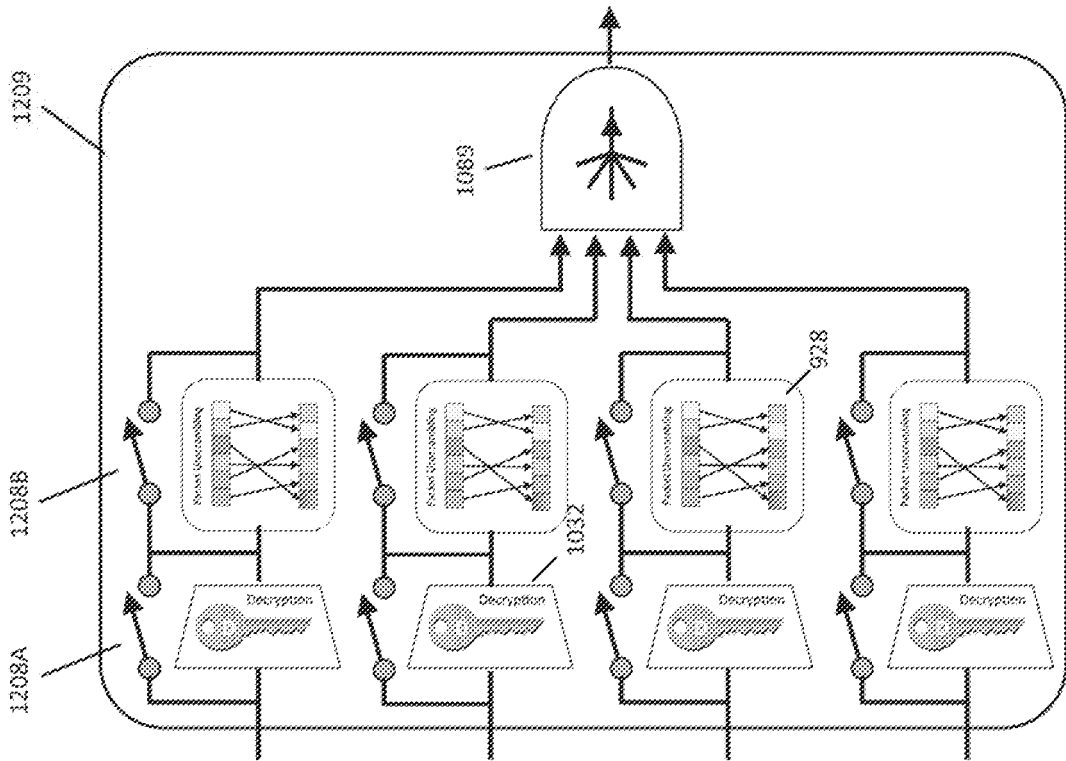
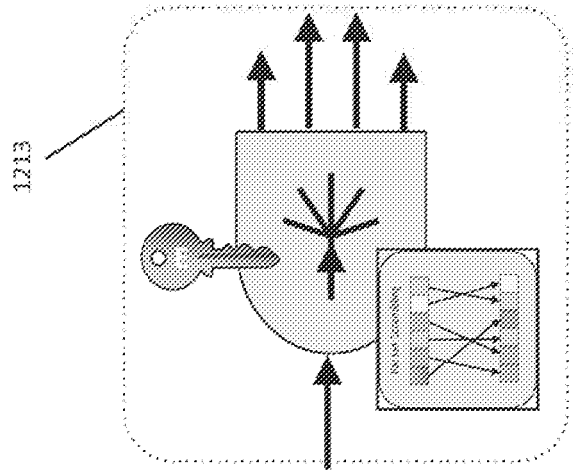


Figure 82B

Symbolic Representation



SSE Nodal Output Functions

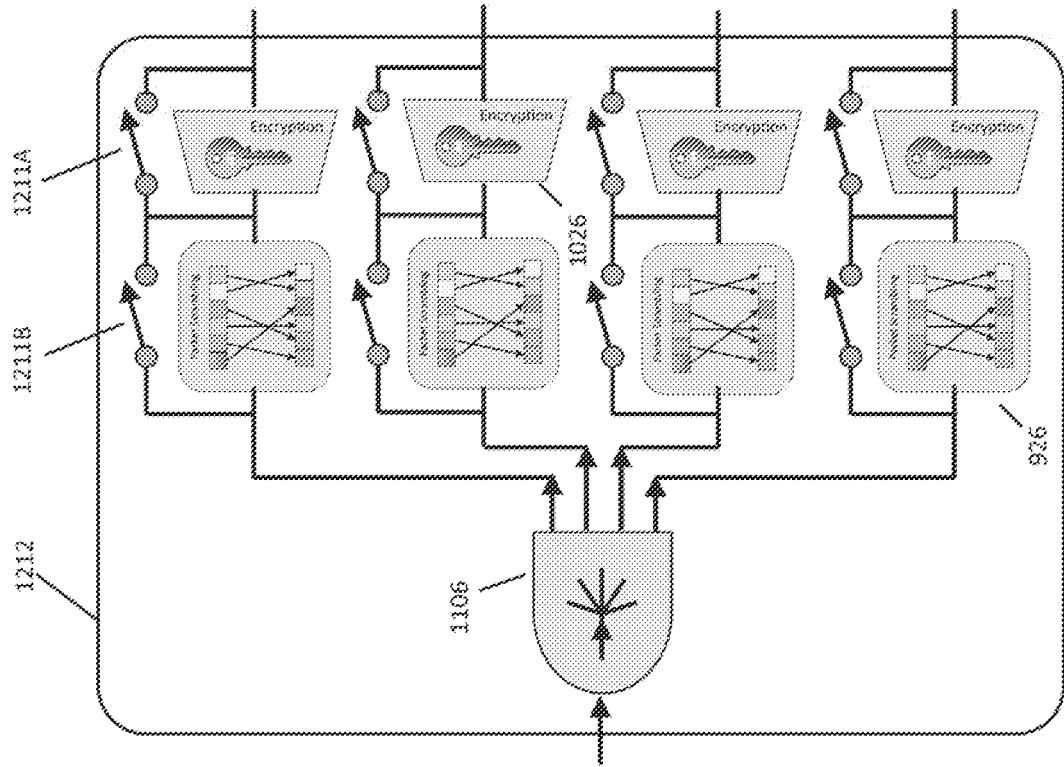


Figure 82C

SDNP Nodal Function of Meshed Re-Packeting

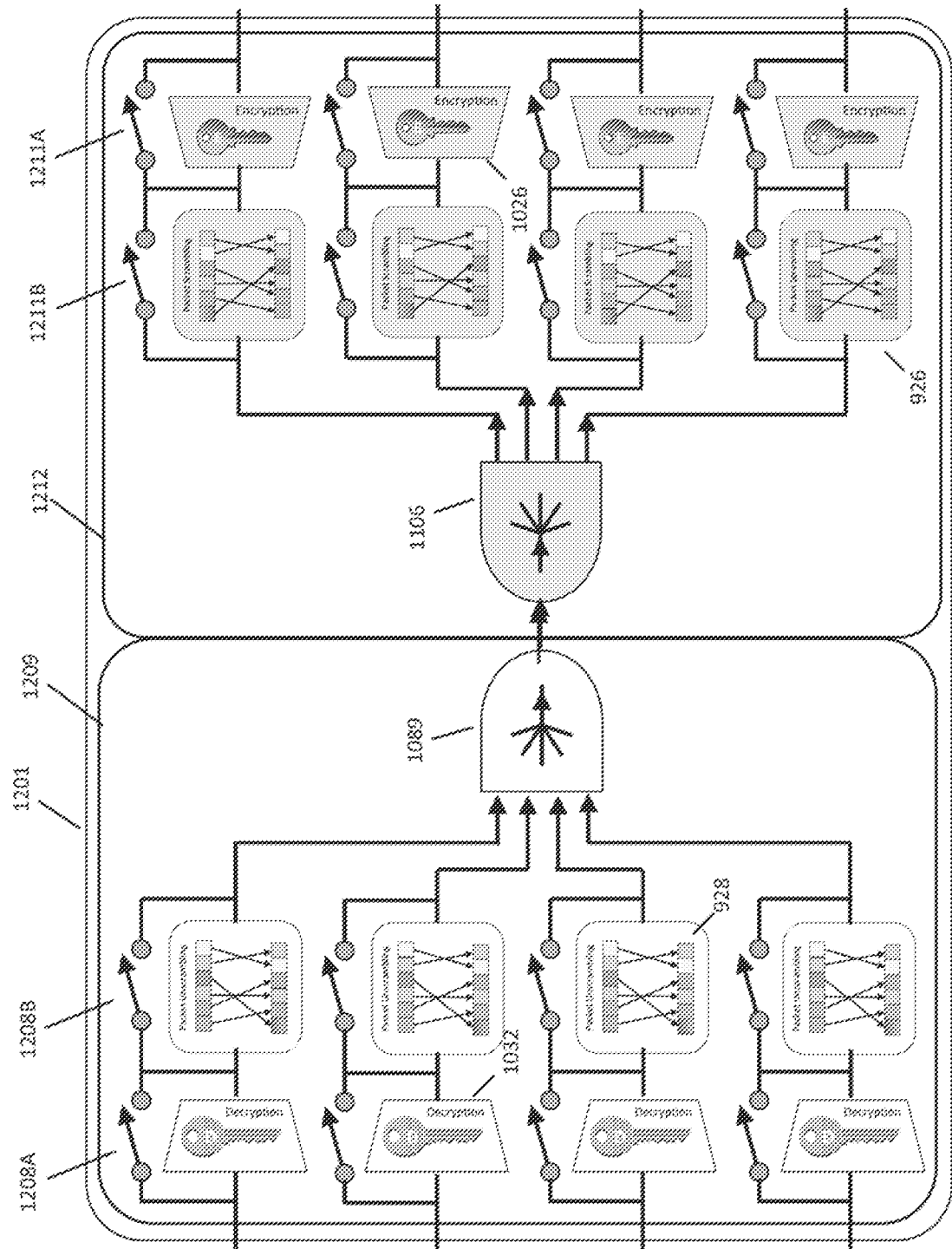


Figure 83A

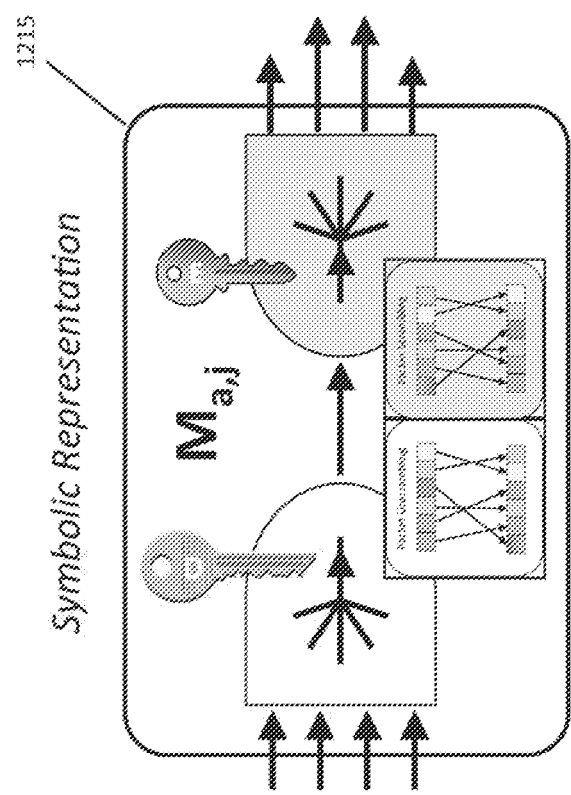


Figure 838

Single-Route Pass-Through

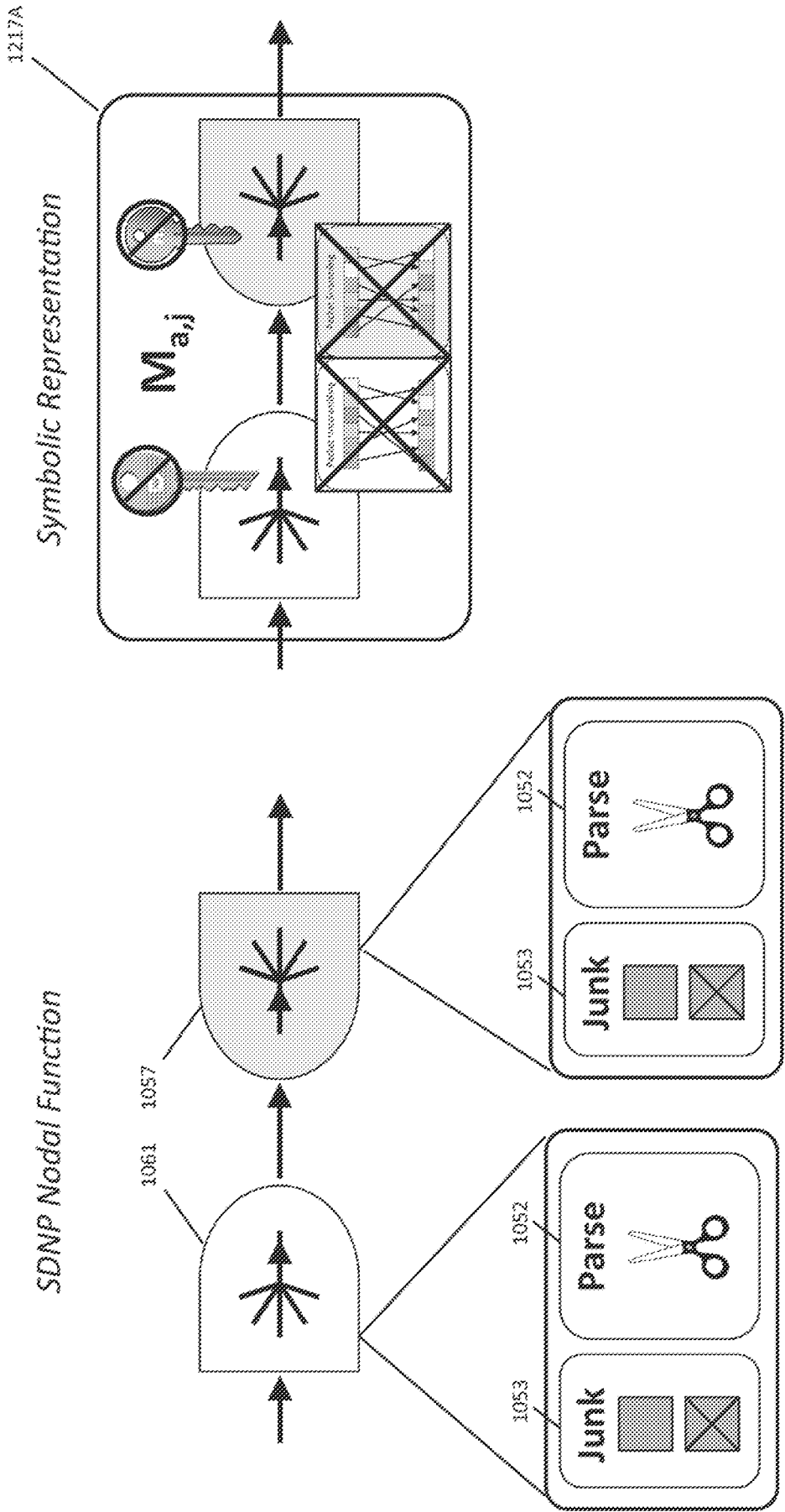


Figure 83C

Redundant Route Replication

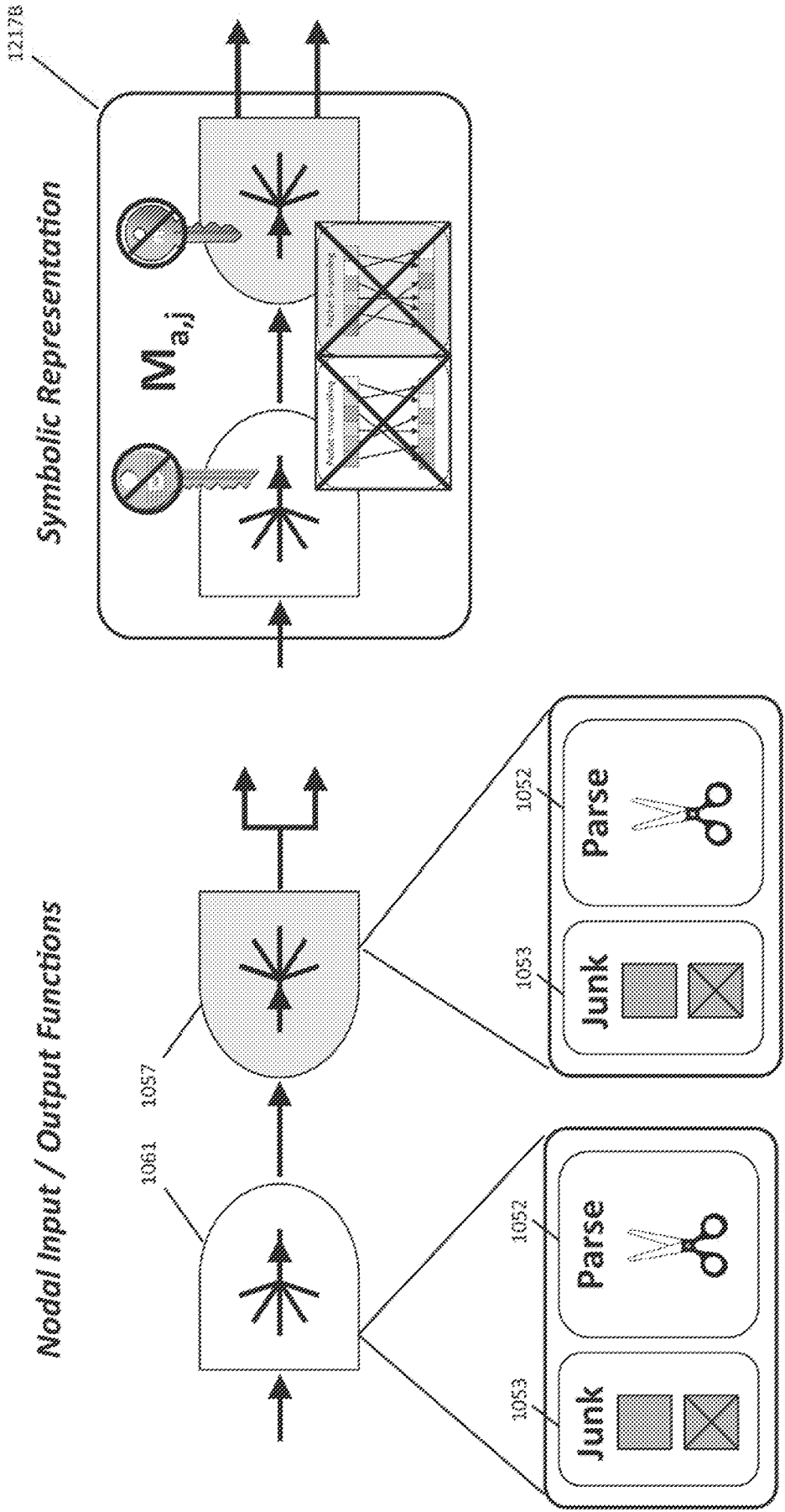


Figure 83D

Single-Route Scrambling

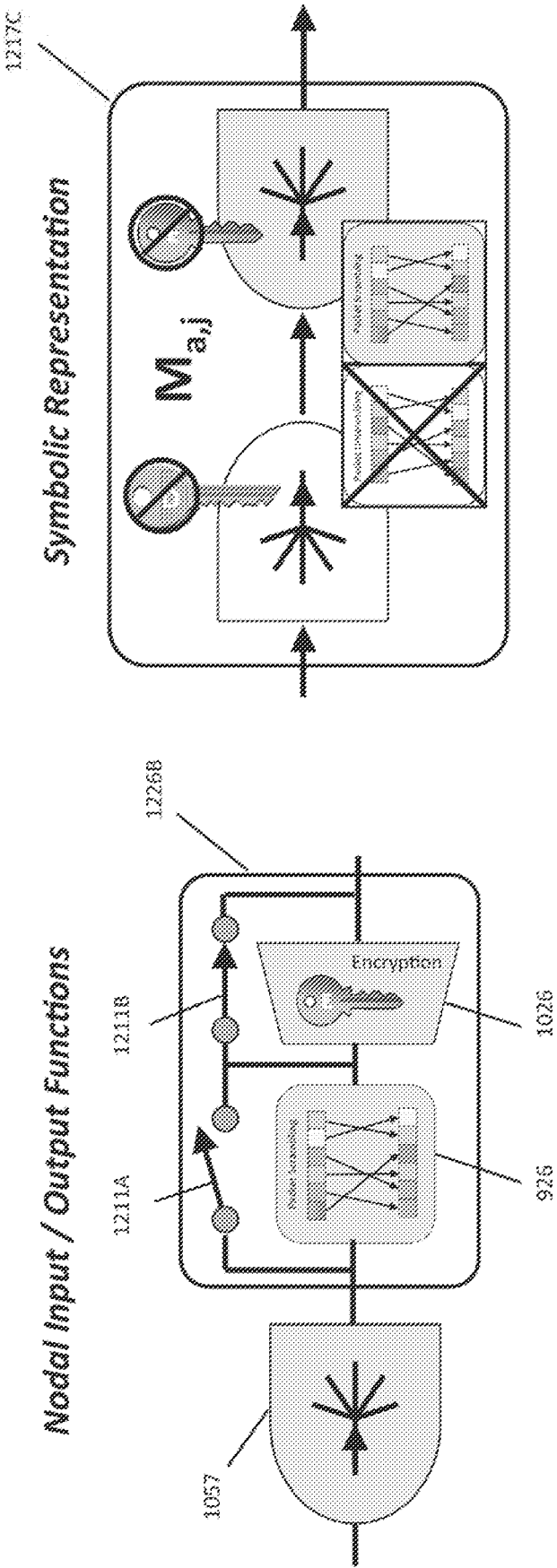


Figure 83E

Single-Route Unscrambling

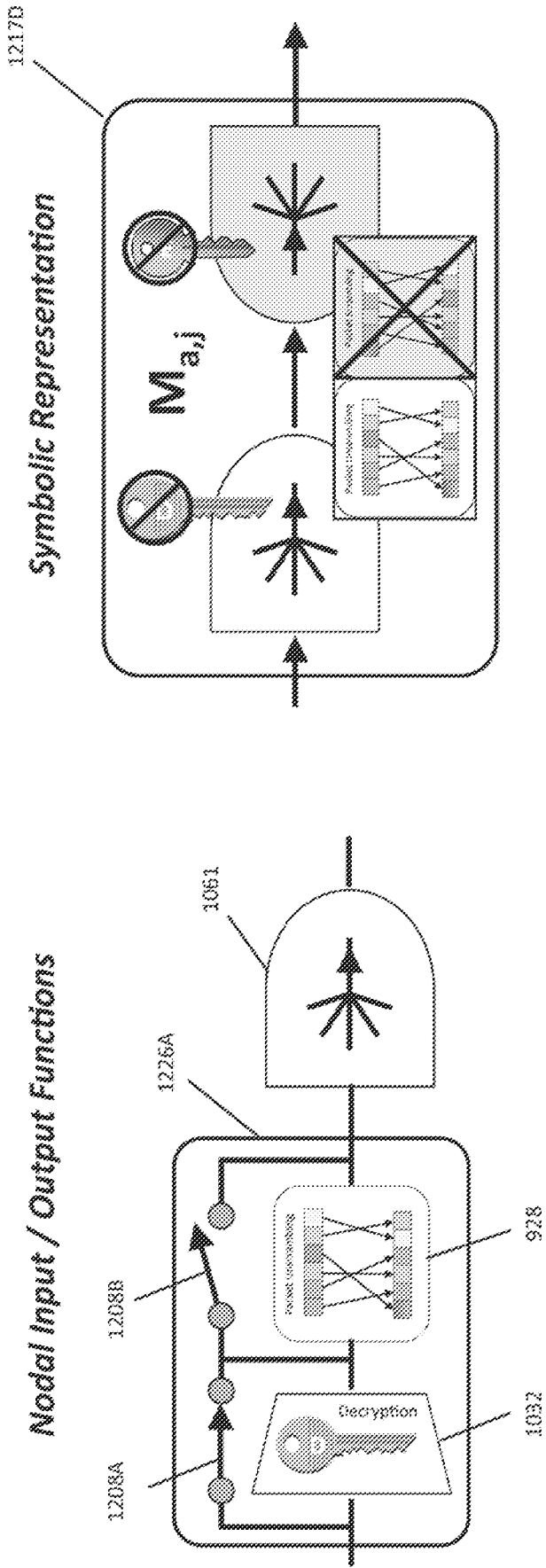


Figure 83F

Single-Route Re-scrambling

Nodal Input / Output Functions

Symbolic Representation

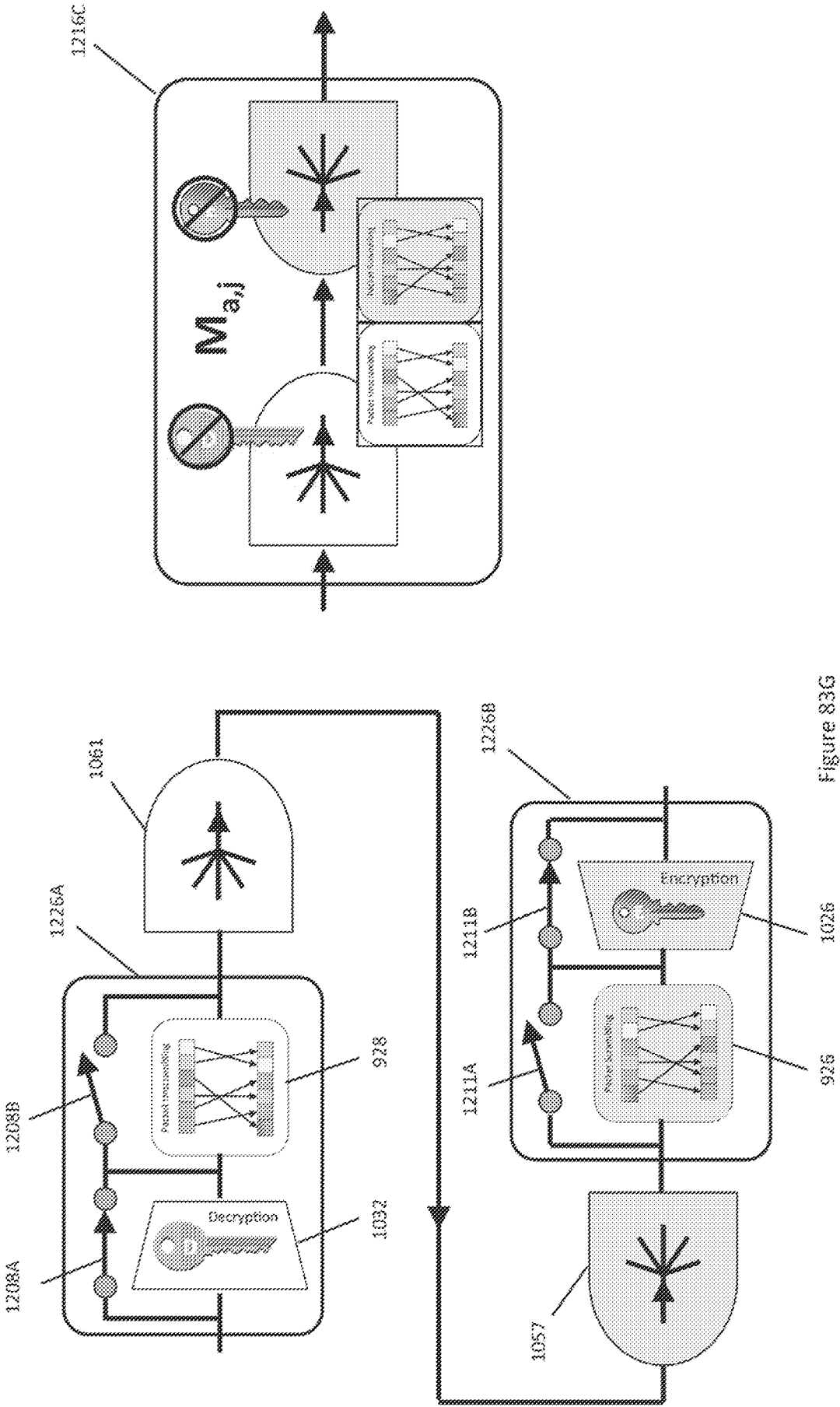


Figure 83G

Single-Route Encryption

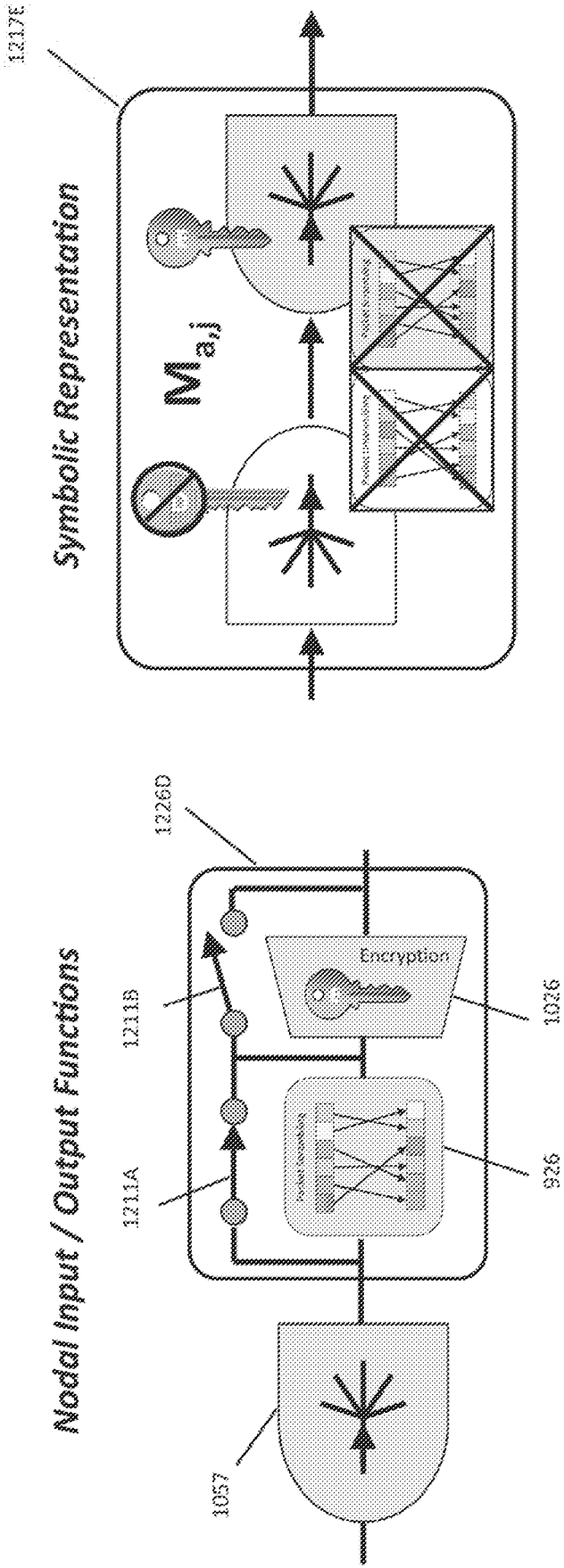


Figure 83H

Single-Route Decryption

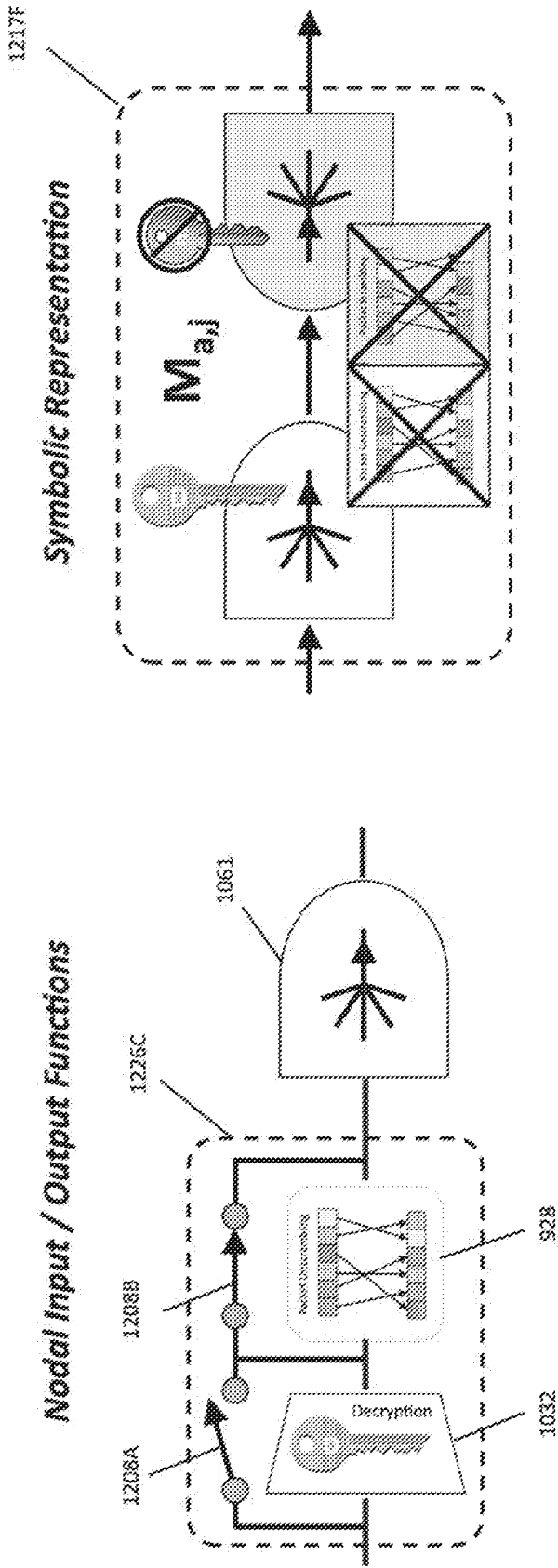
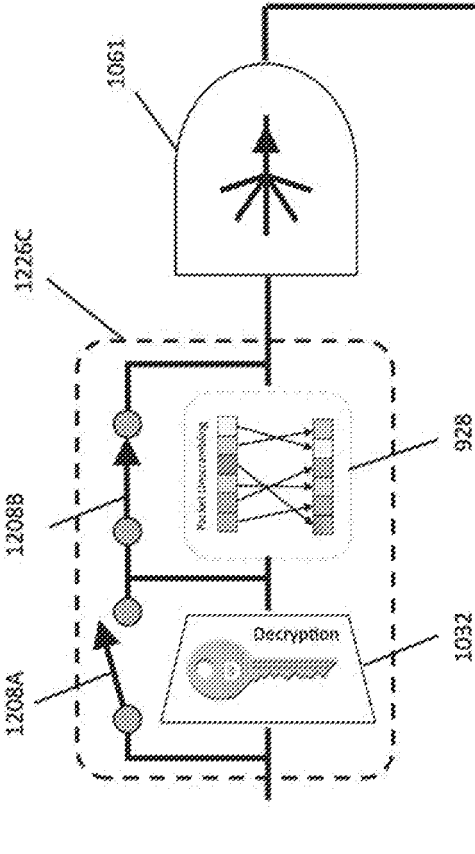


Figure 83I

Single-Route Re-encryption

Nodal Input / Output Functions



Symbolic Representation

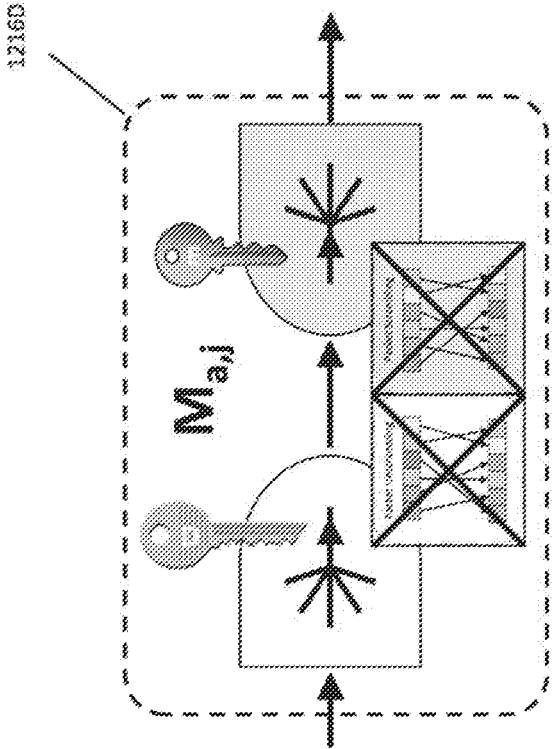


Figure 83J

Single-Route Scrambled Encryption

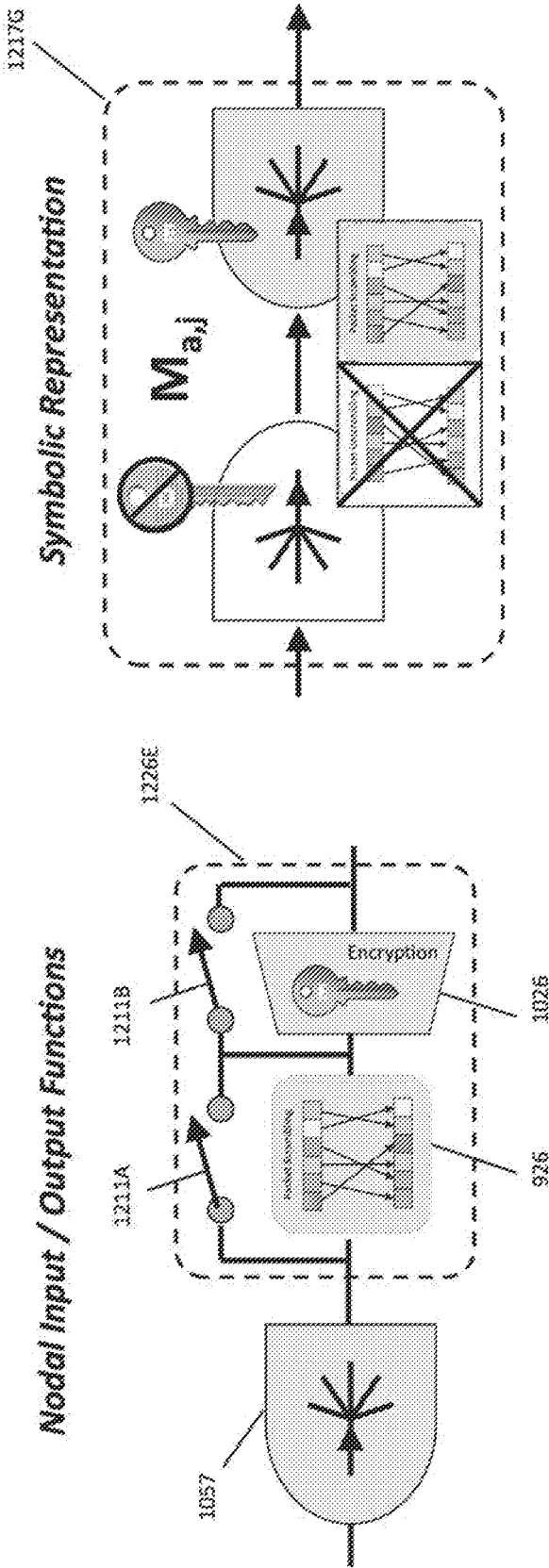


Figure 83K

Single-Route Unscrambled Decryption

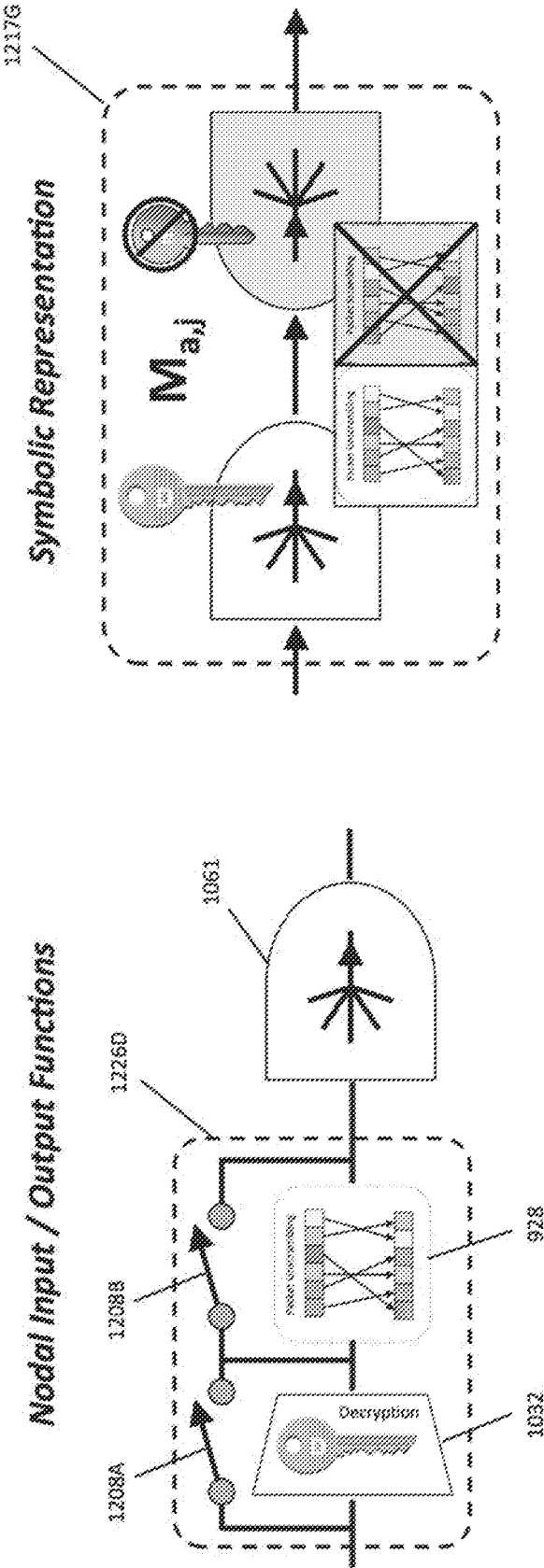
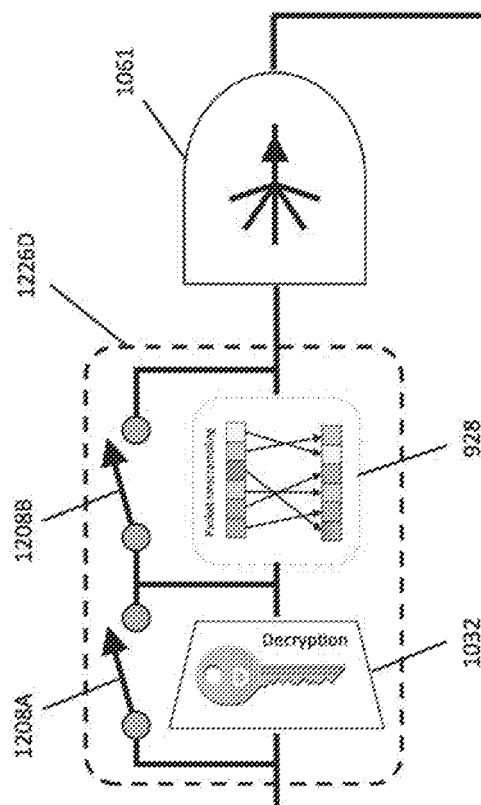


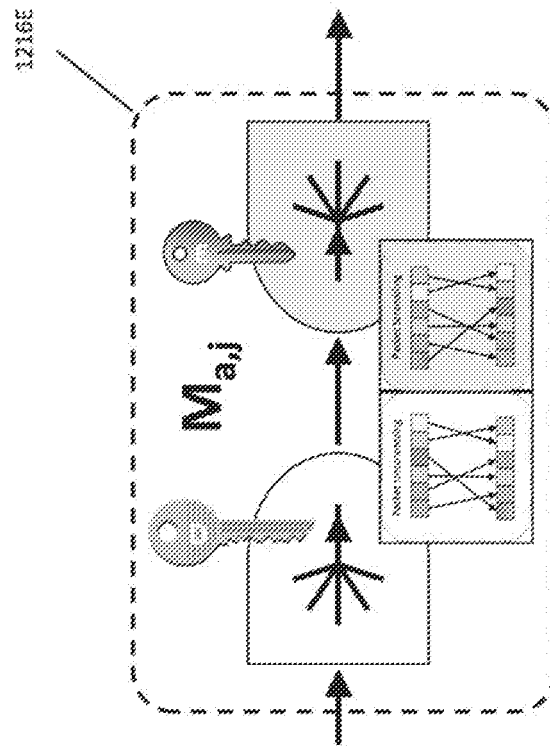
Figure 83L

Single-Route Re-packing

Model Input / Output Functions



Symbolic Representation



88-21583-7

Meshed SDNP Gateway Input

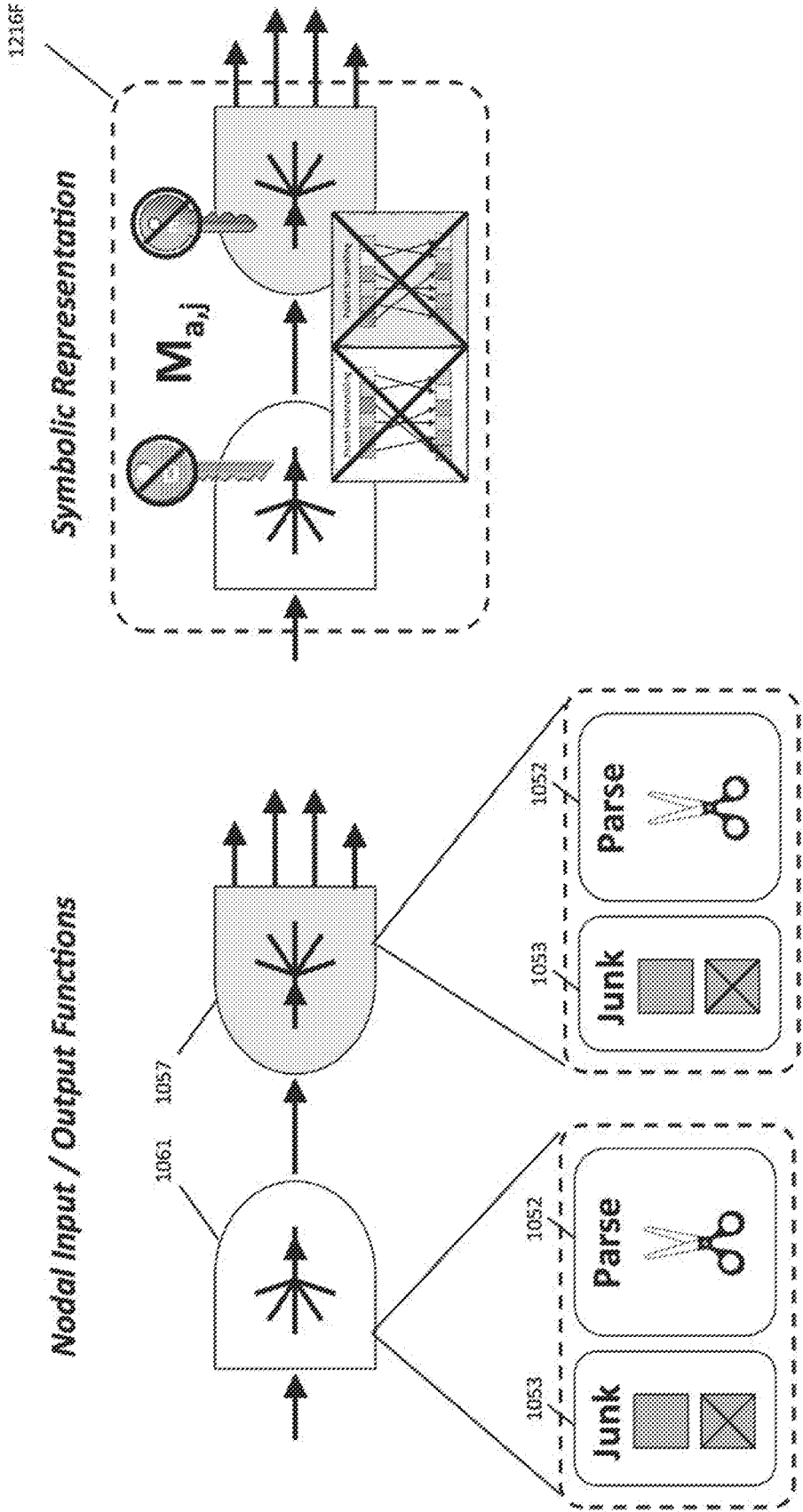


Figure 83N

Meshed SDNP Gateway Output

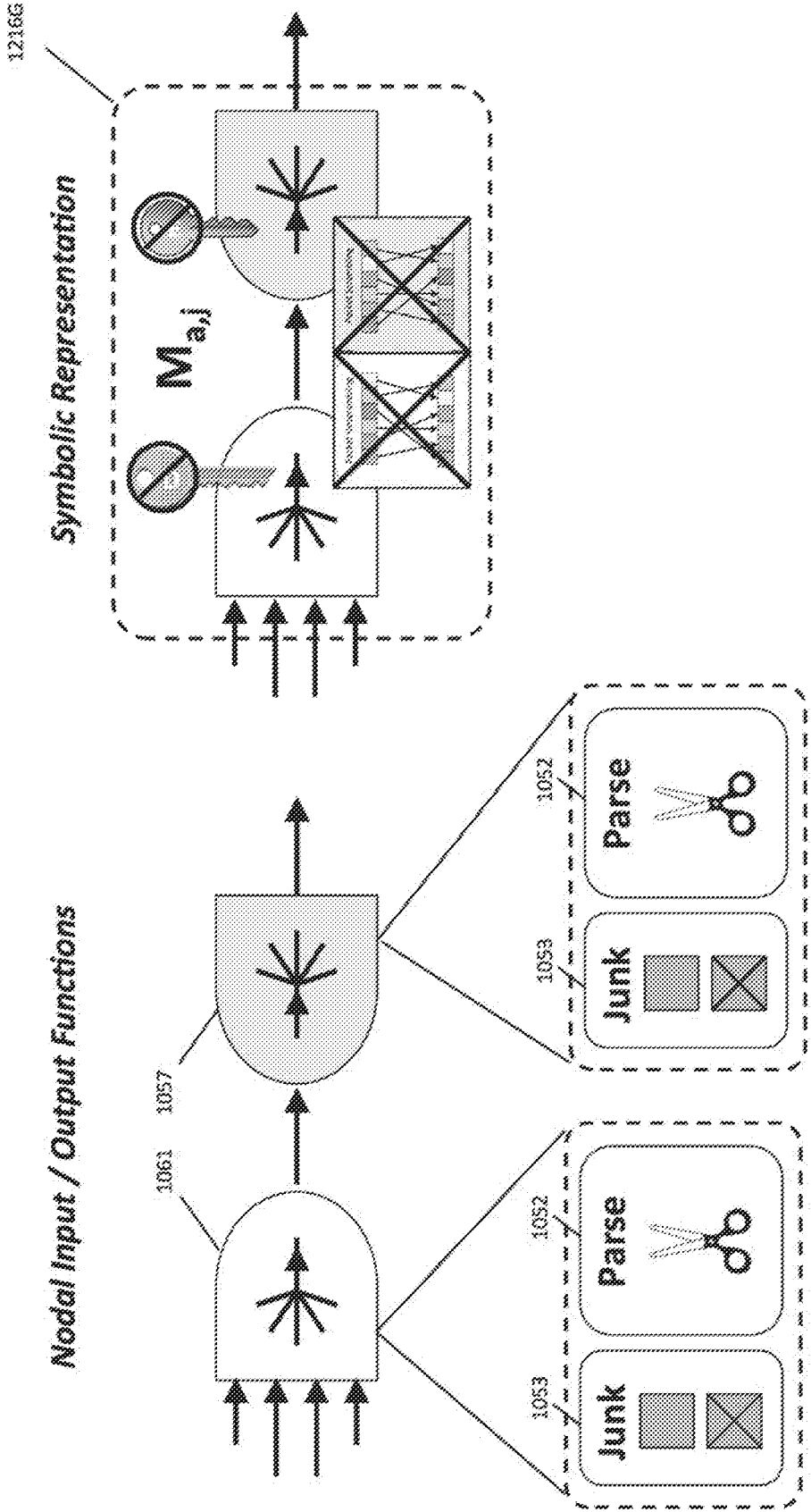


Figure 830

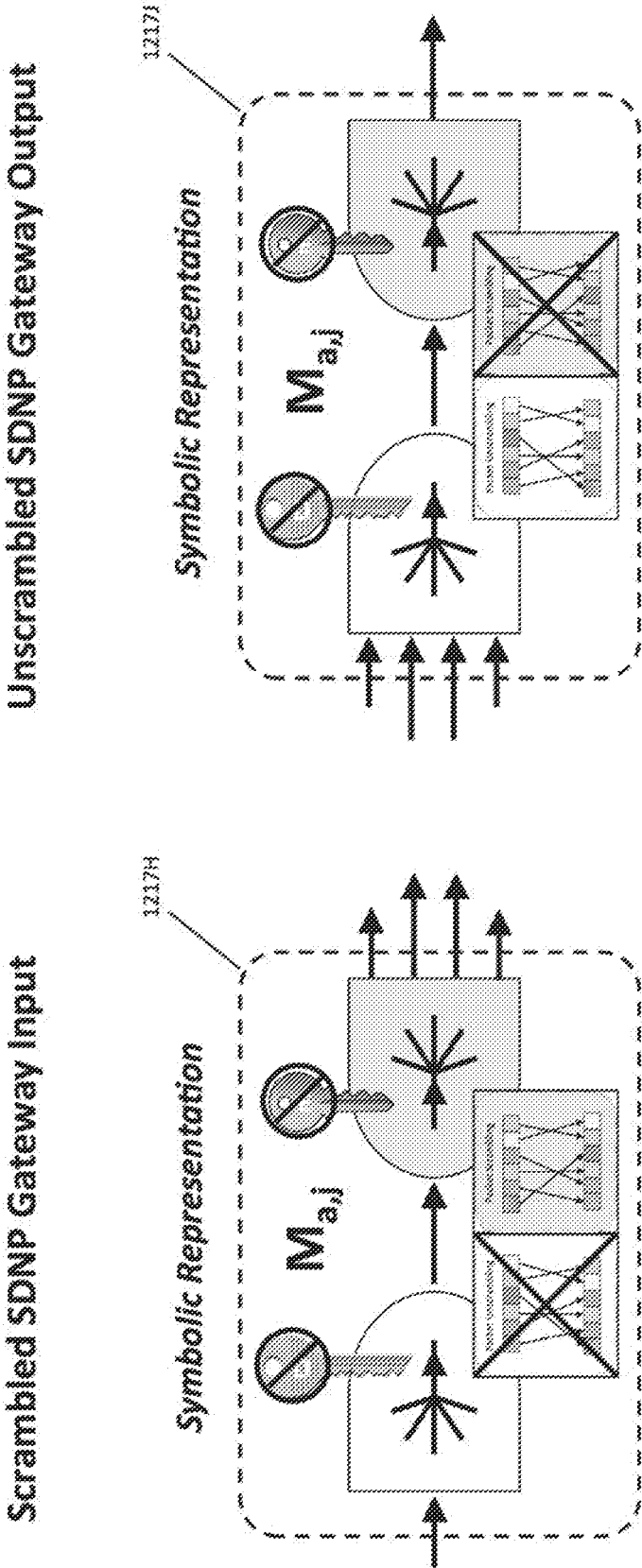


Figure 83P

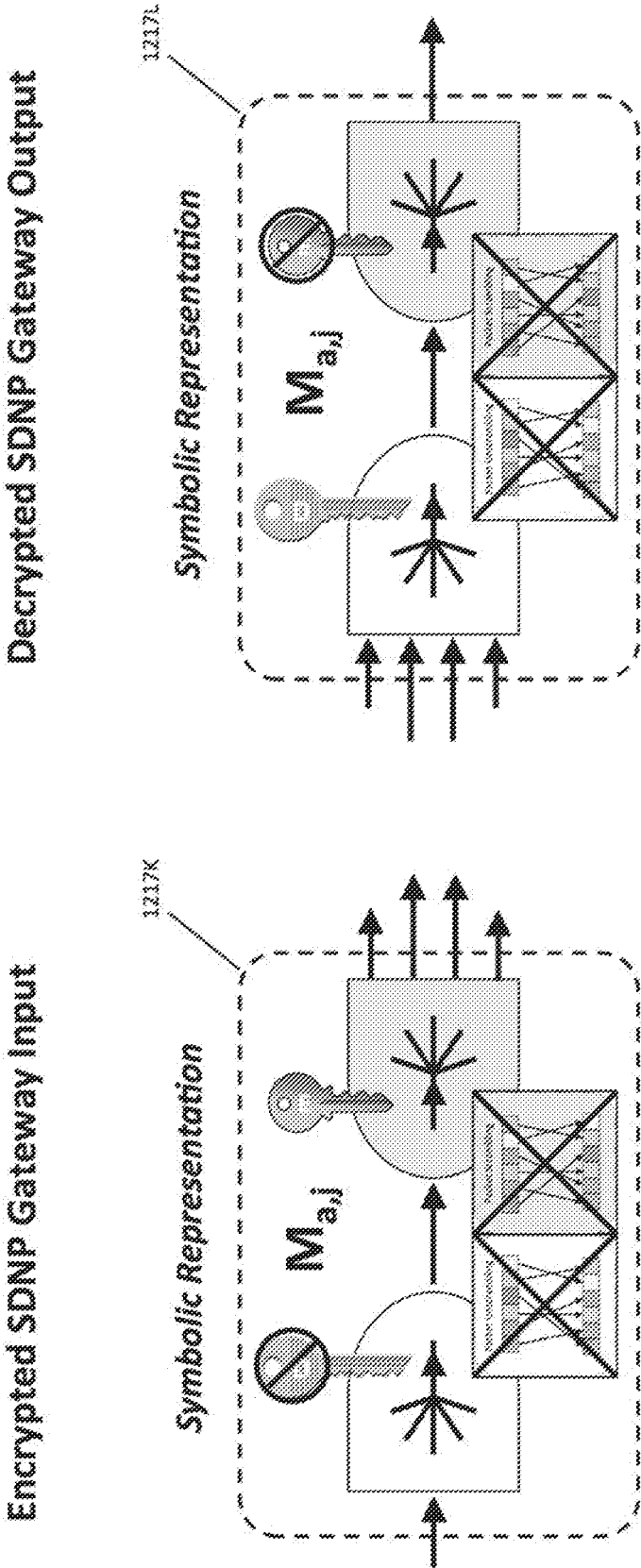


Figure 83Q

Scrambled Encrypted SDNP Gateway Input Unscrambled Decrypted SDNP Gateway Output

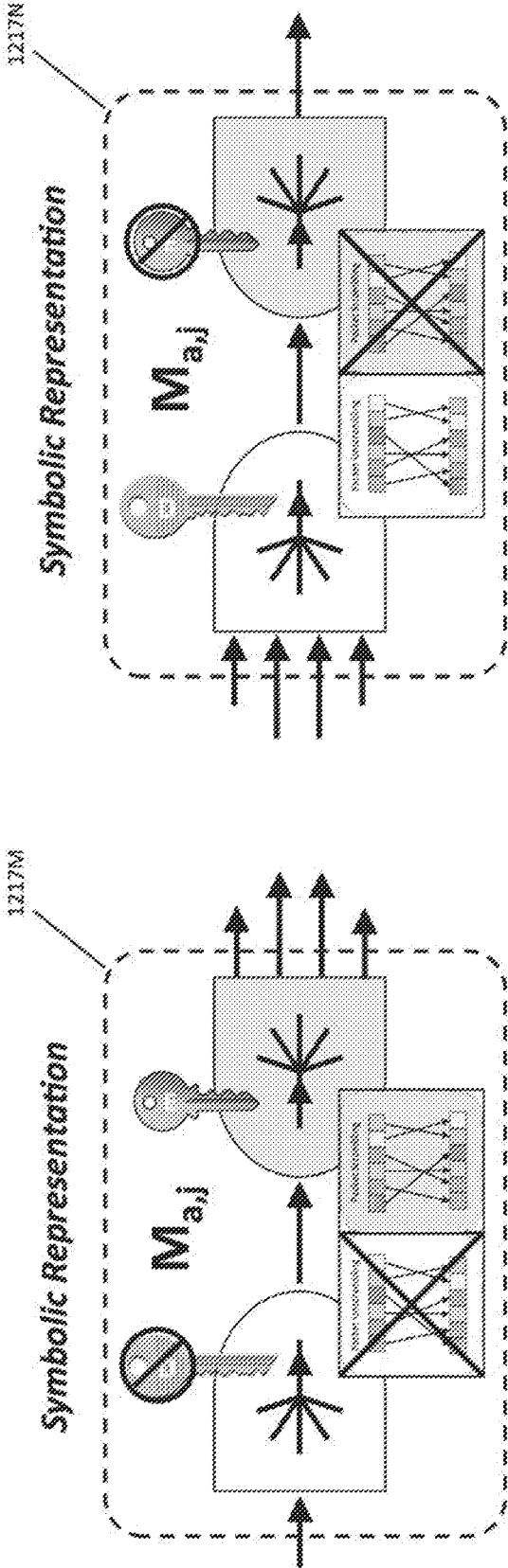


Figure 83R

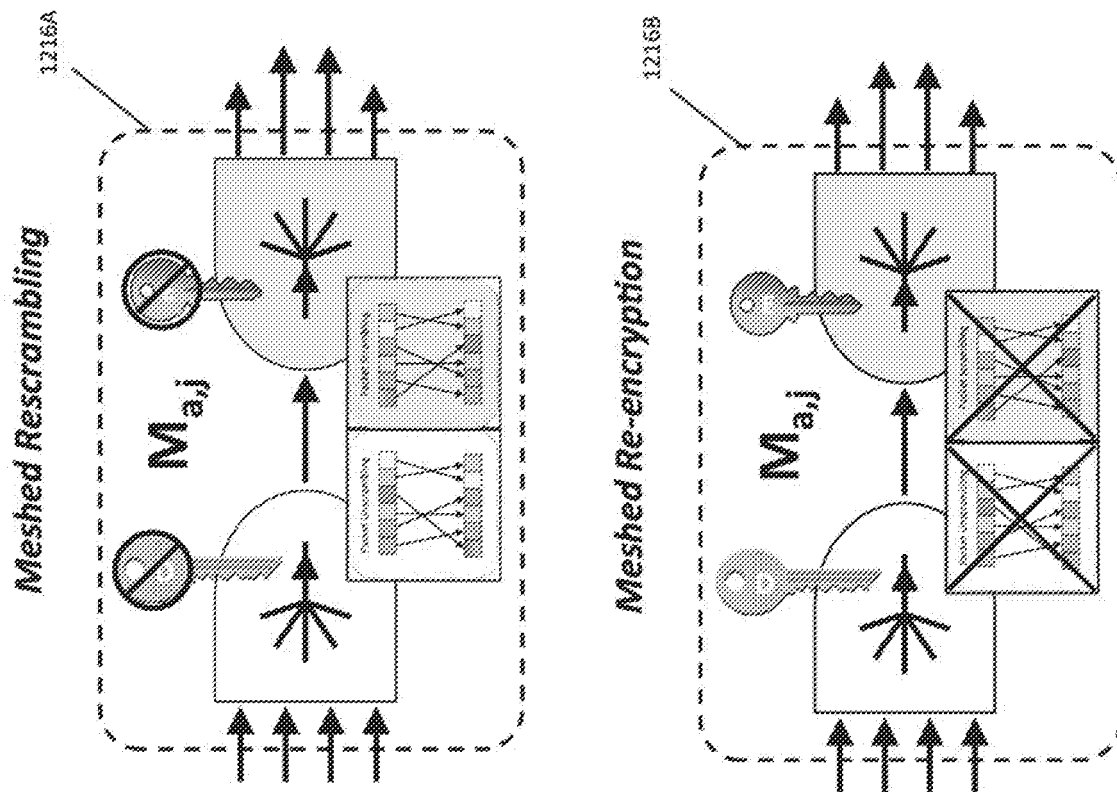


Figure 83S

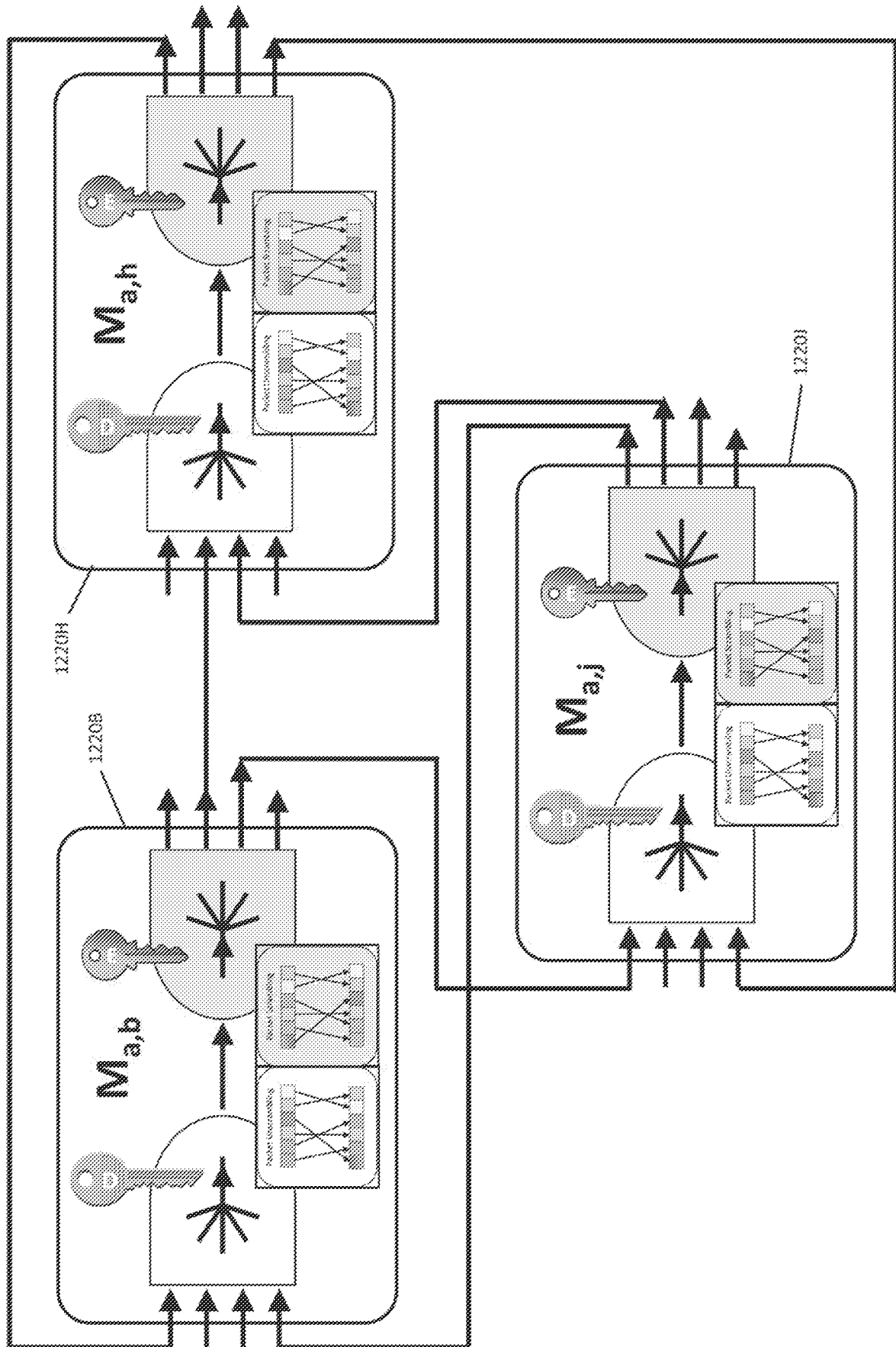
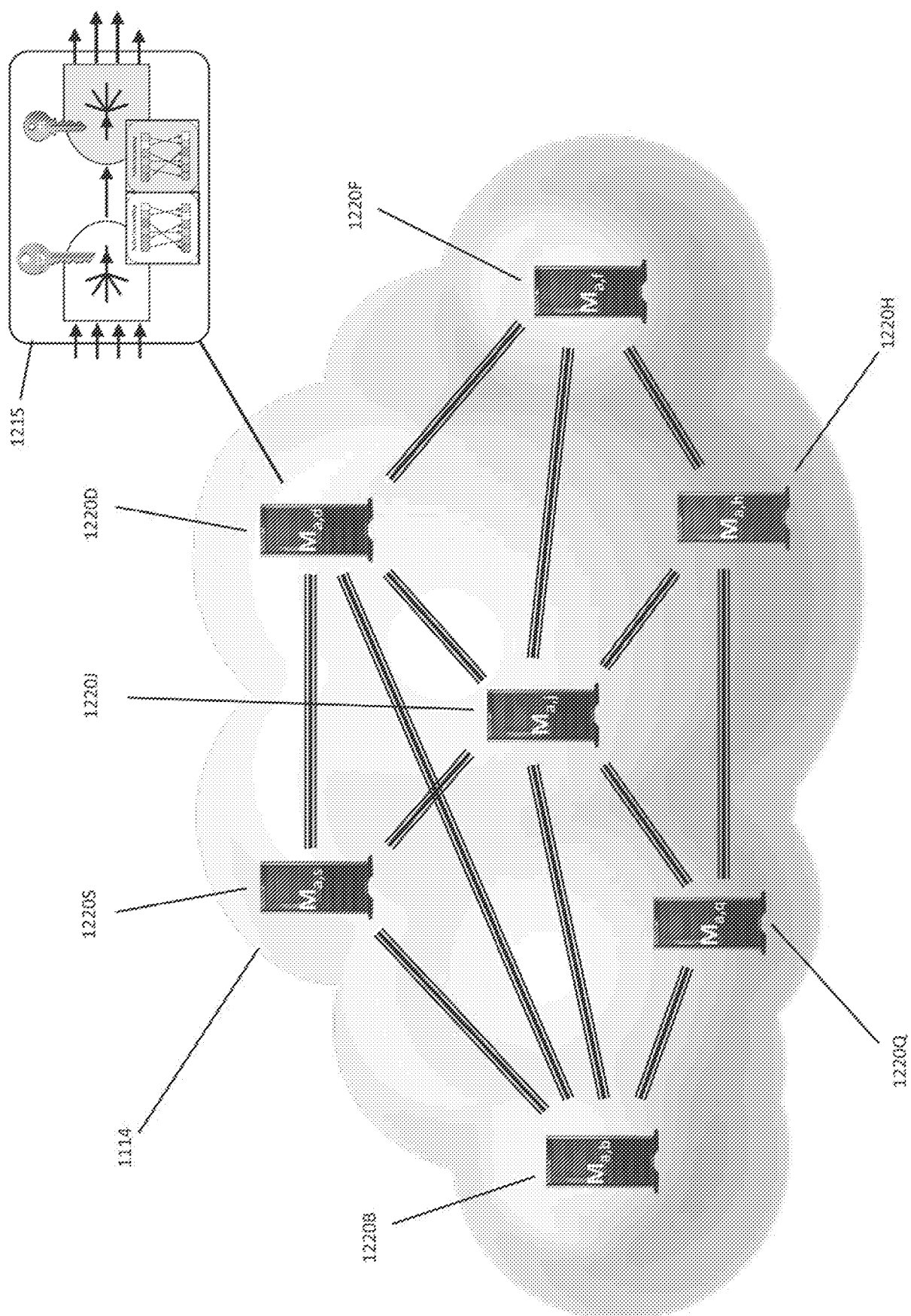


Figure 84A



0000000000

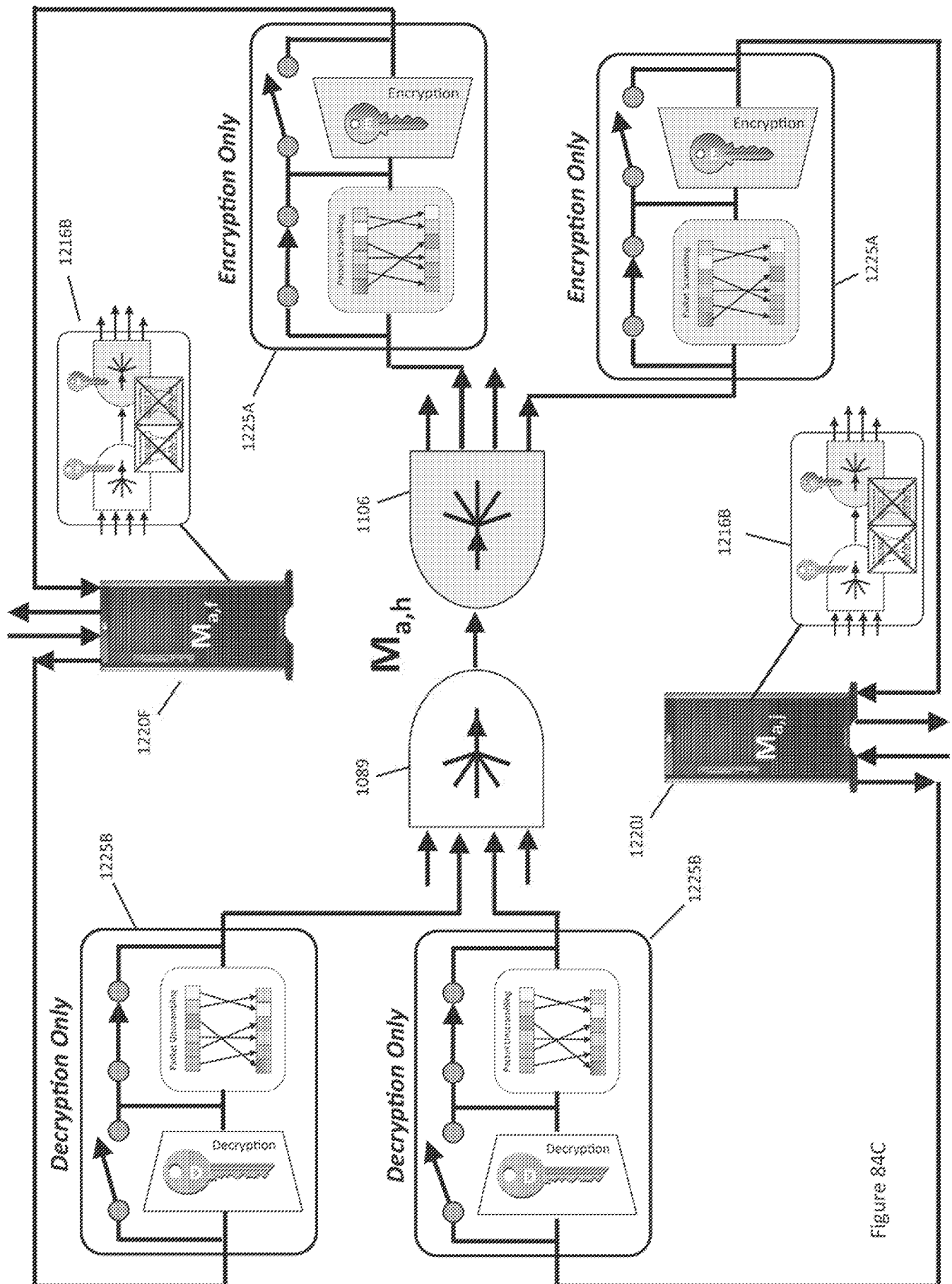


Figure 84C

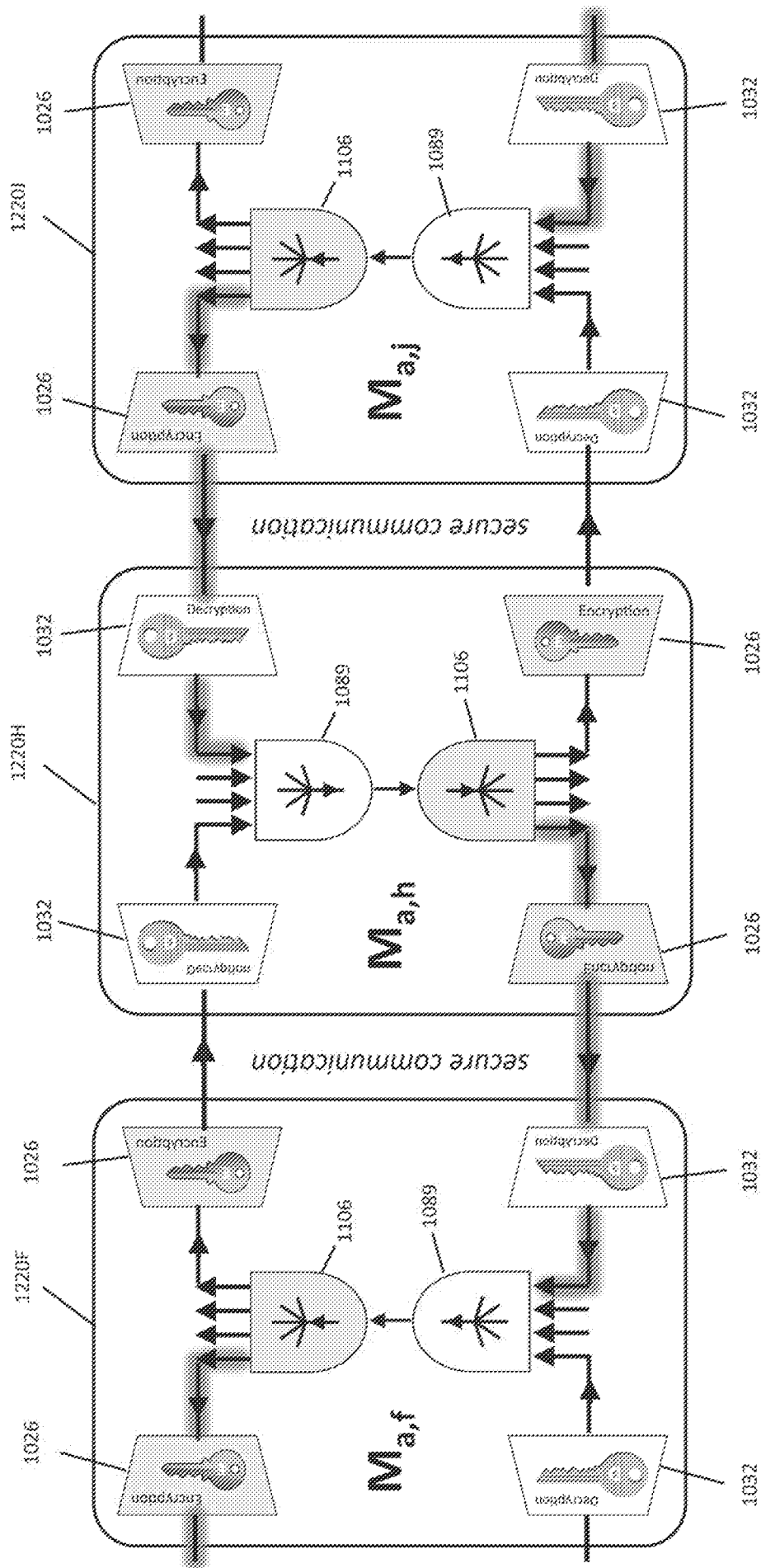


Figure 84D

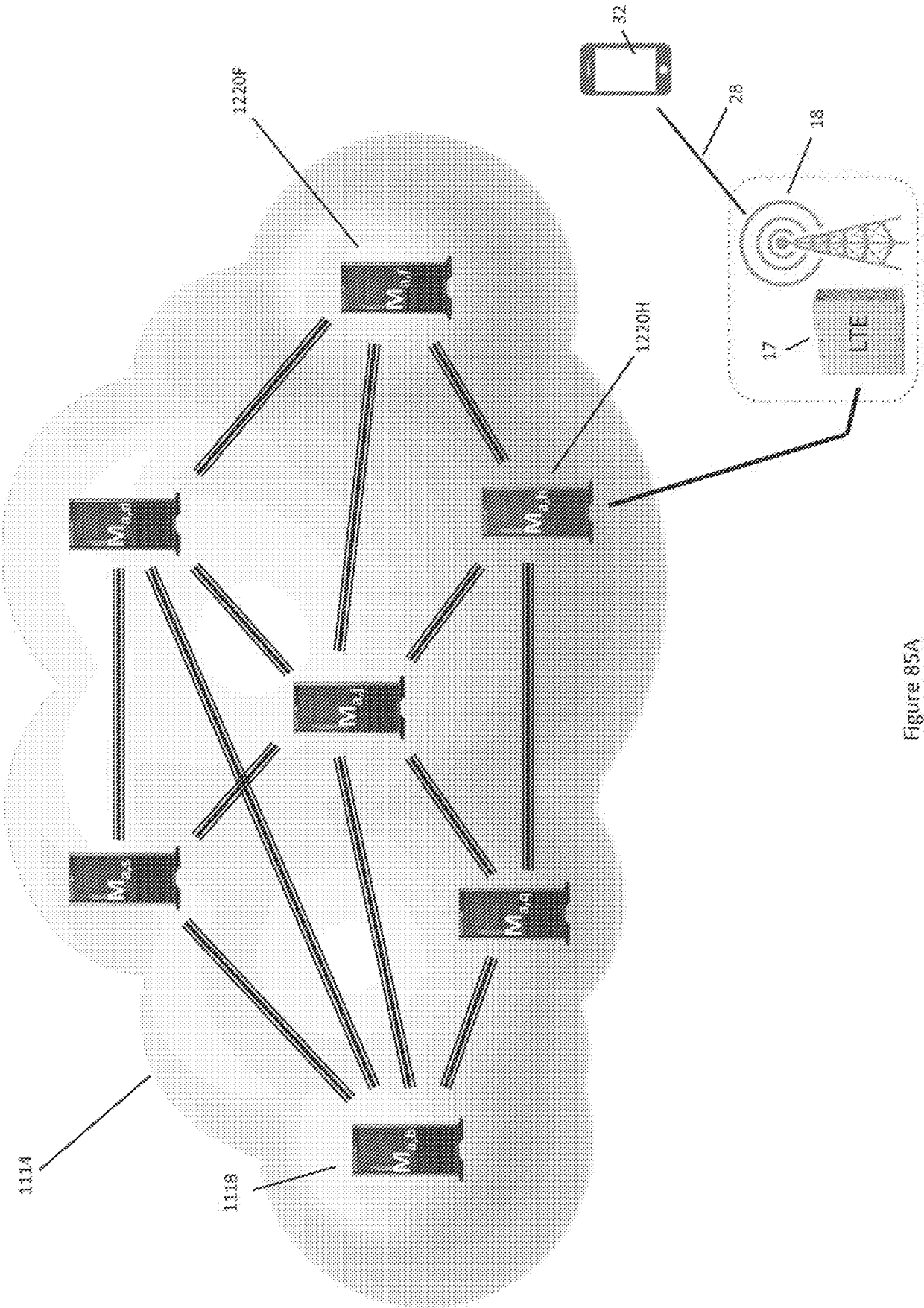


Figure 85A

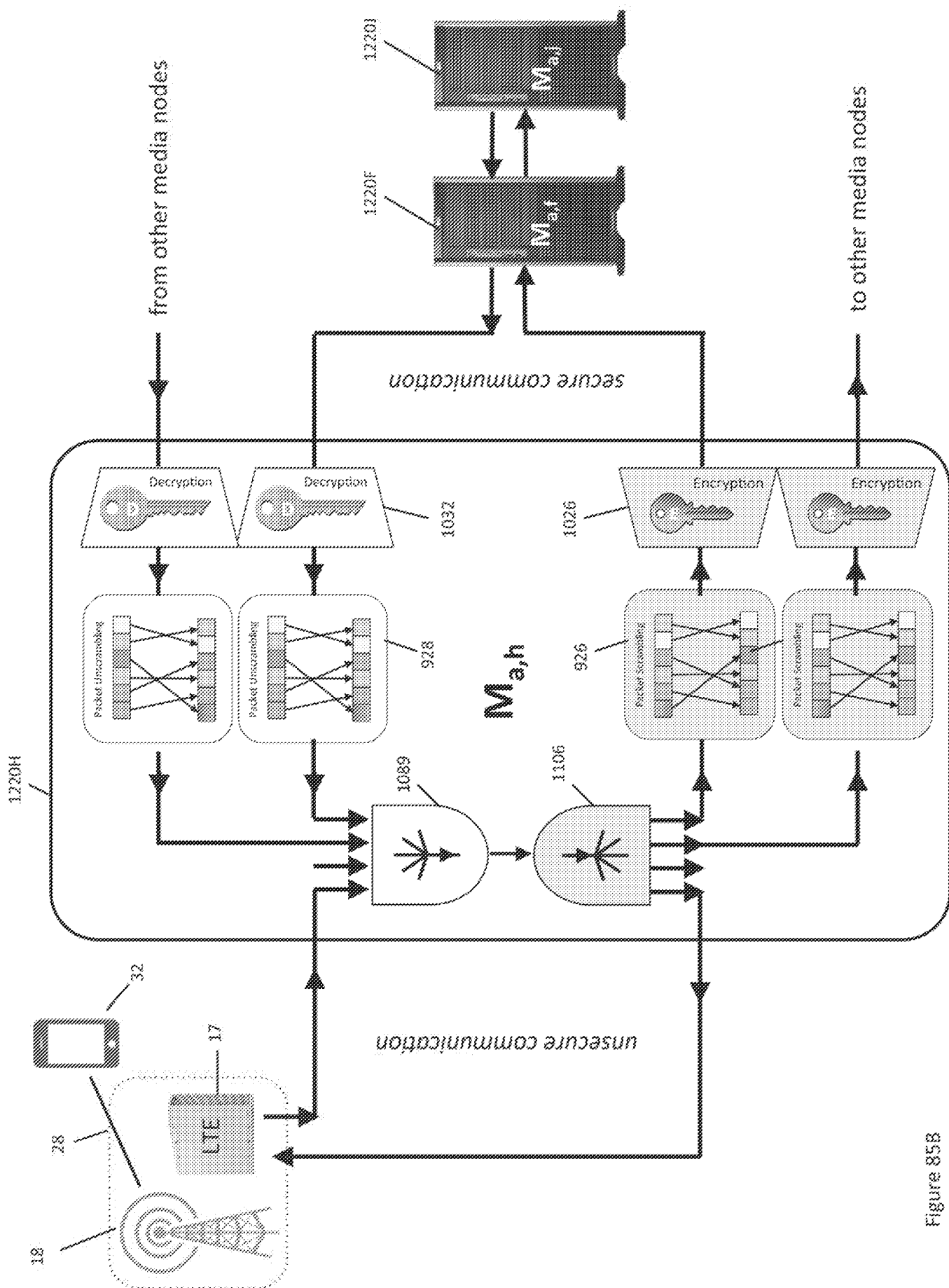


Figure 85B

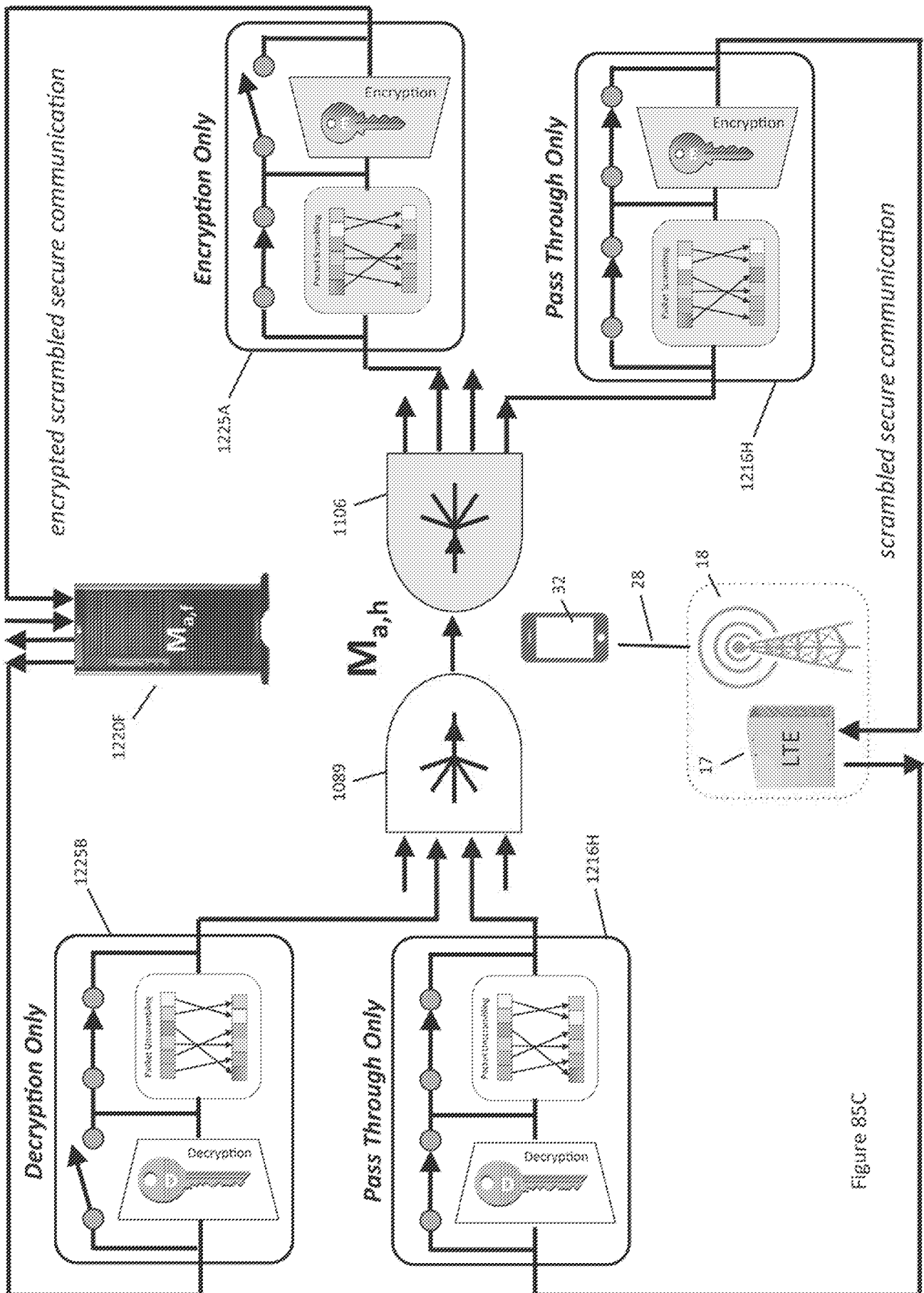


Figure 85C

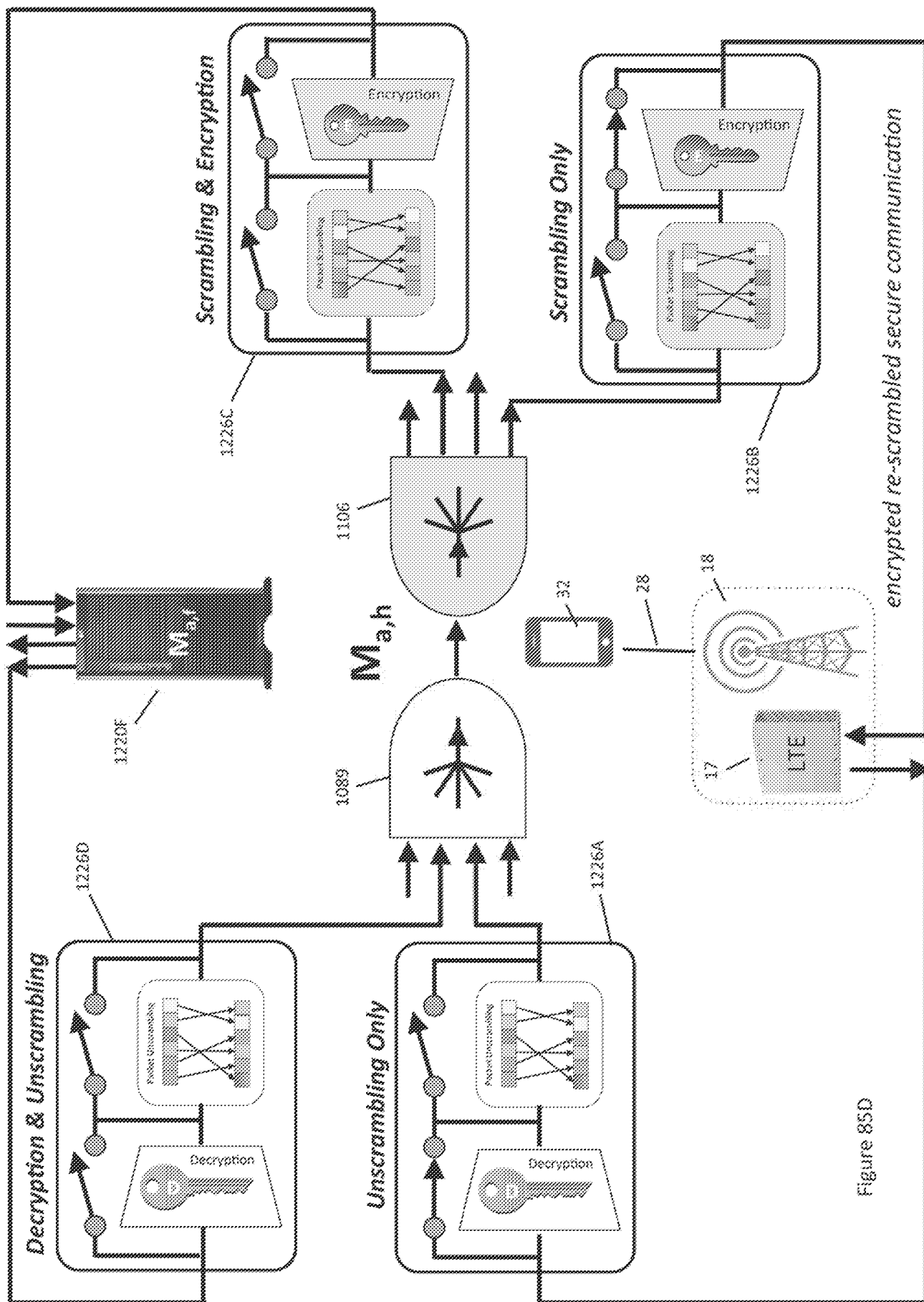


Figure 85D

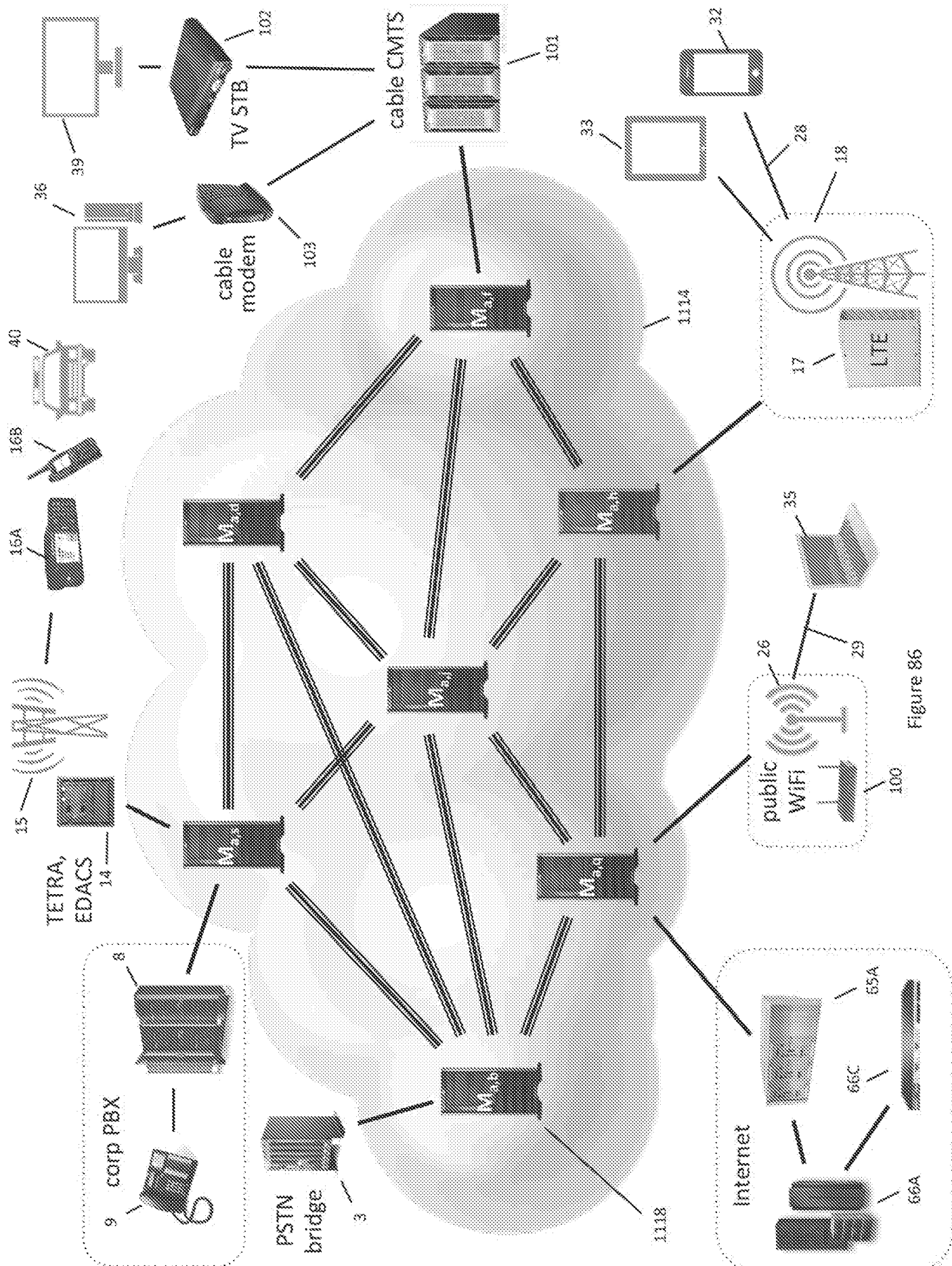


Figure 86

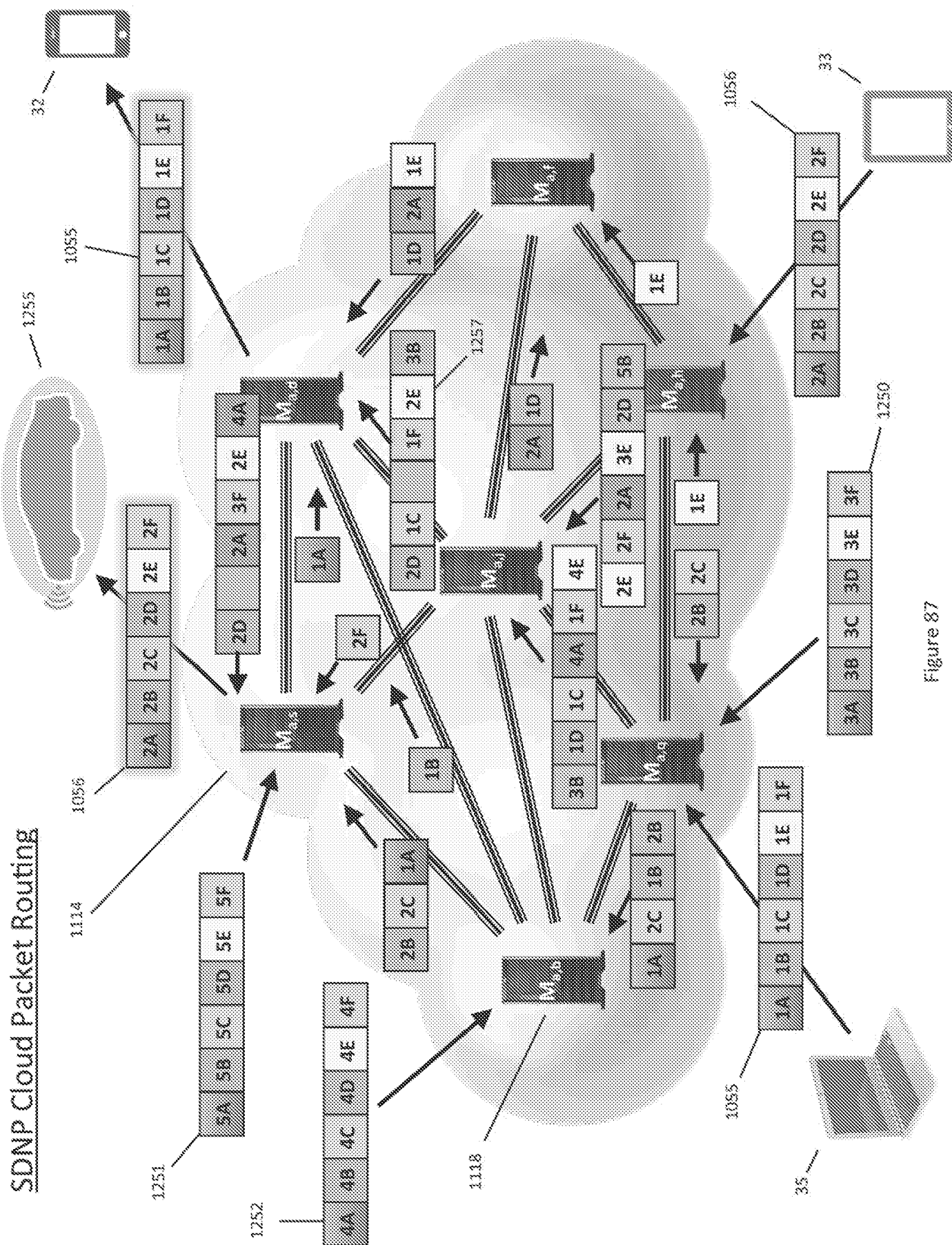


Figure 87

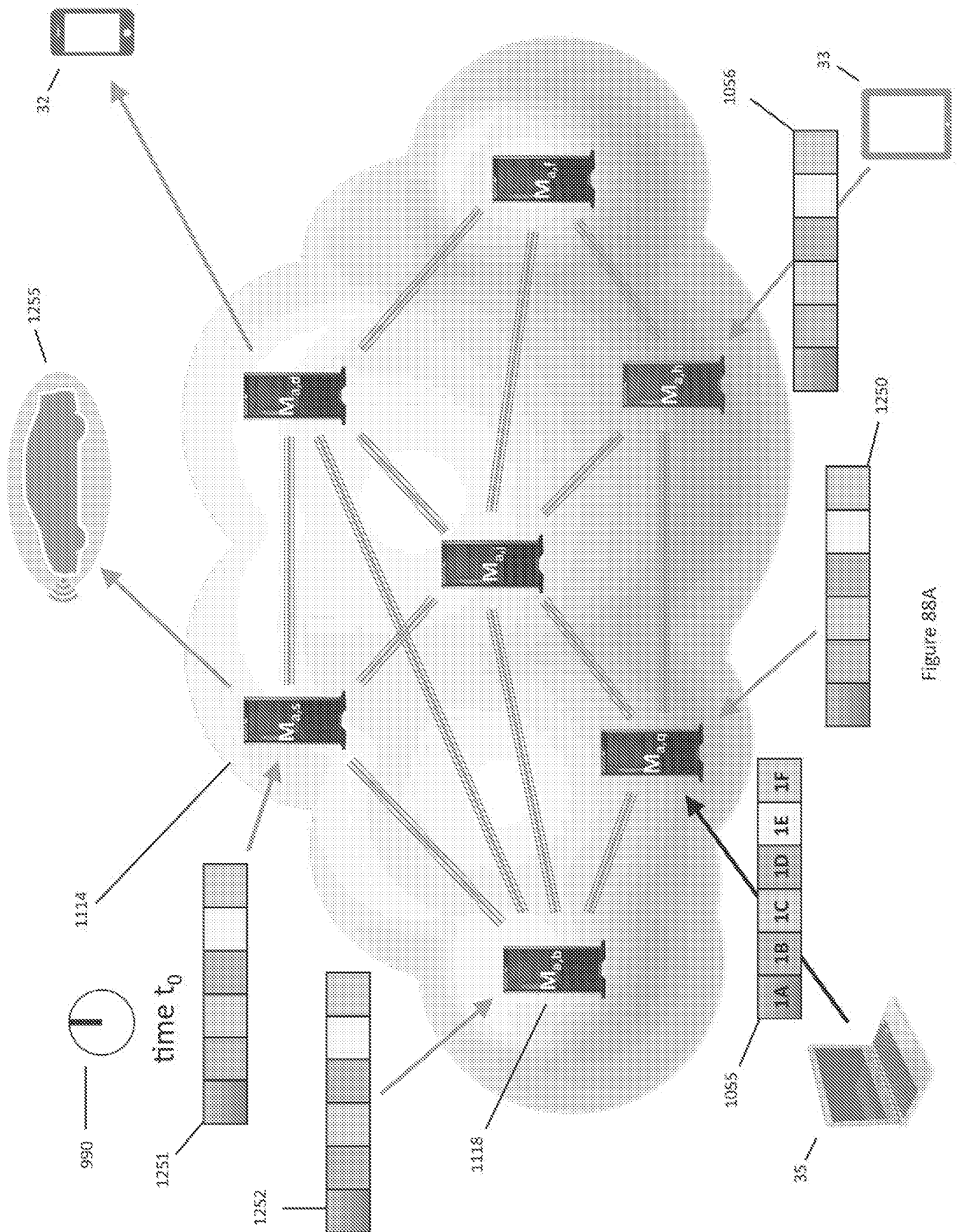


Figure 88A

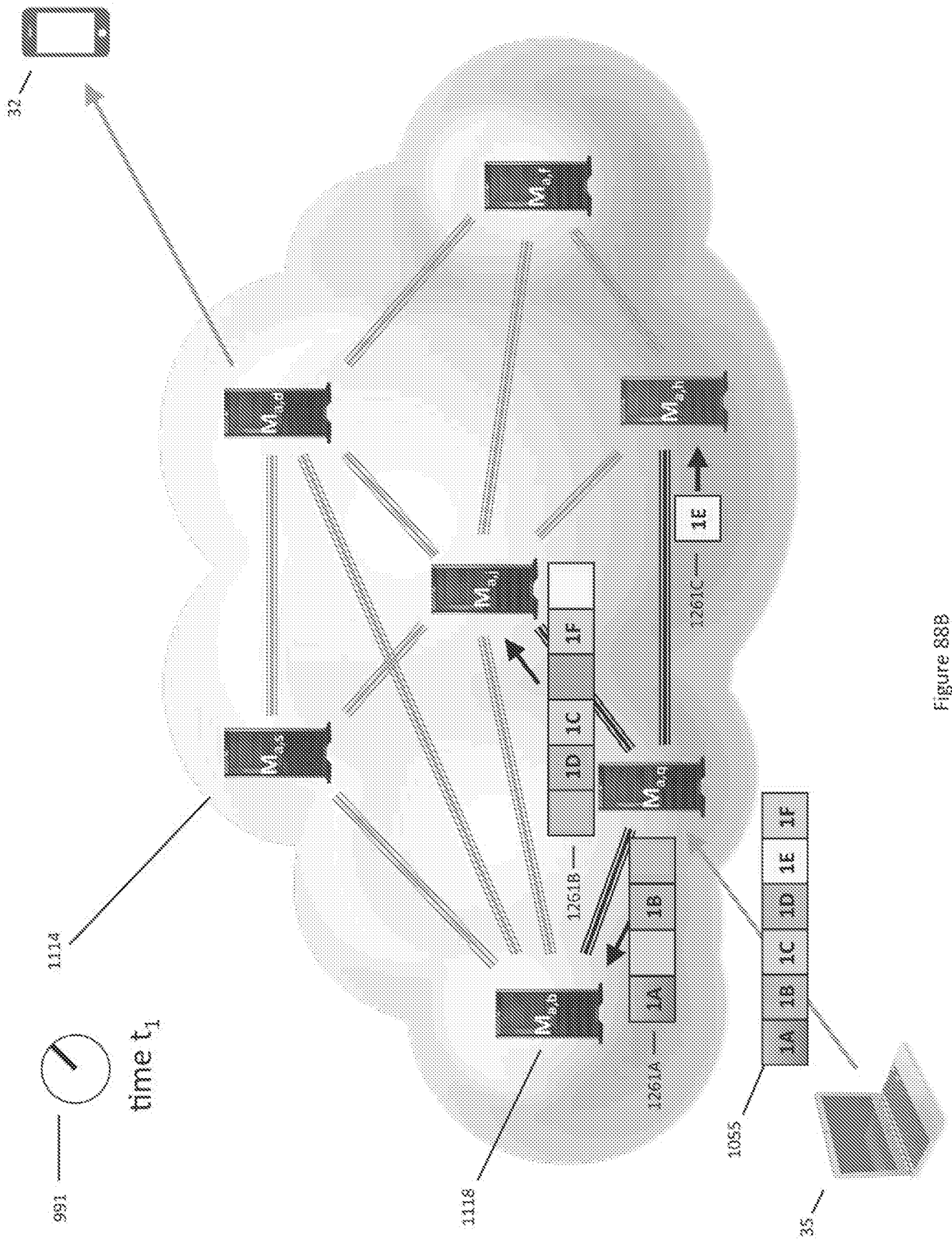


Figure 88B

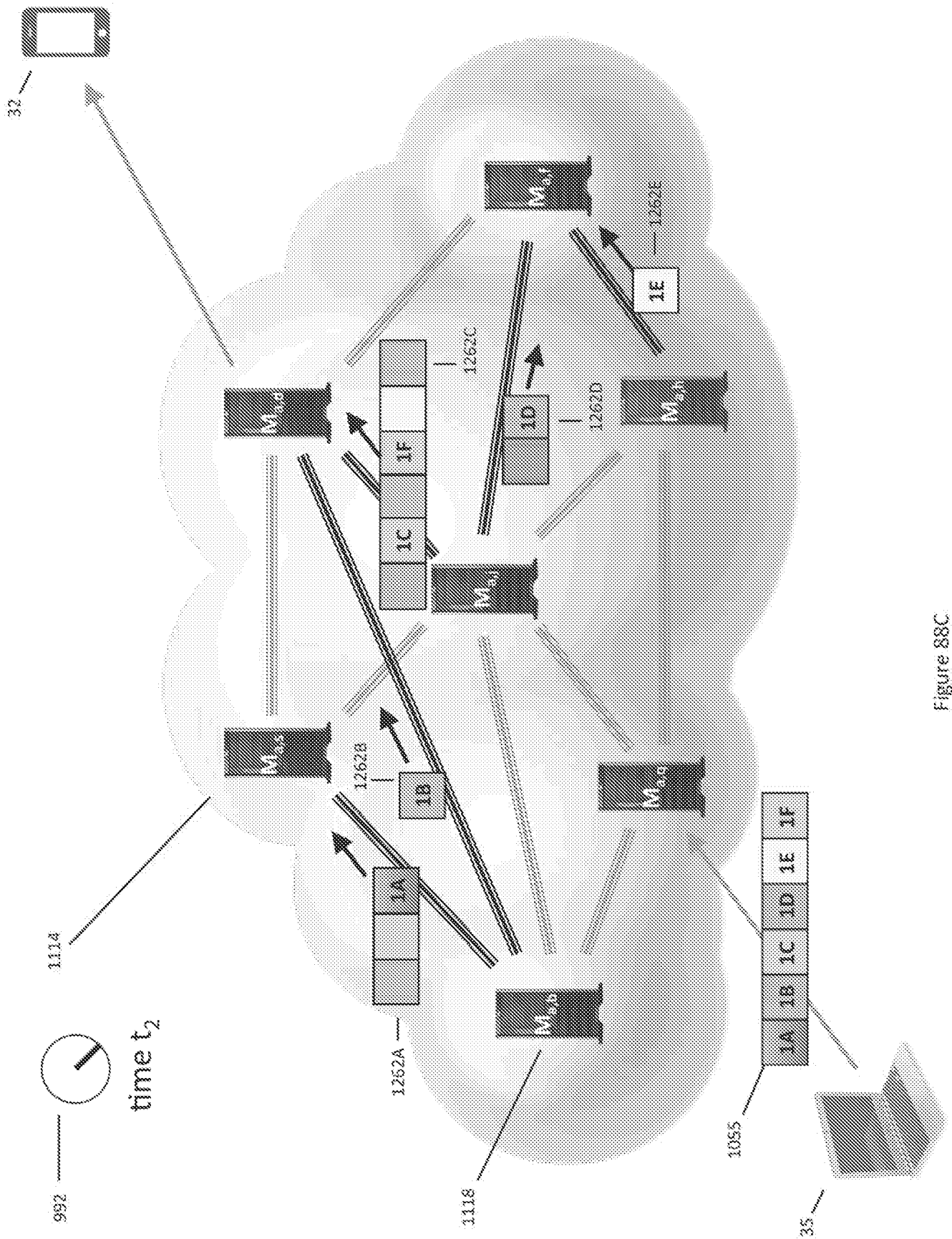


Figure 88C

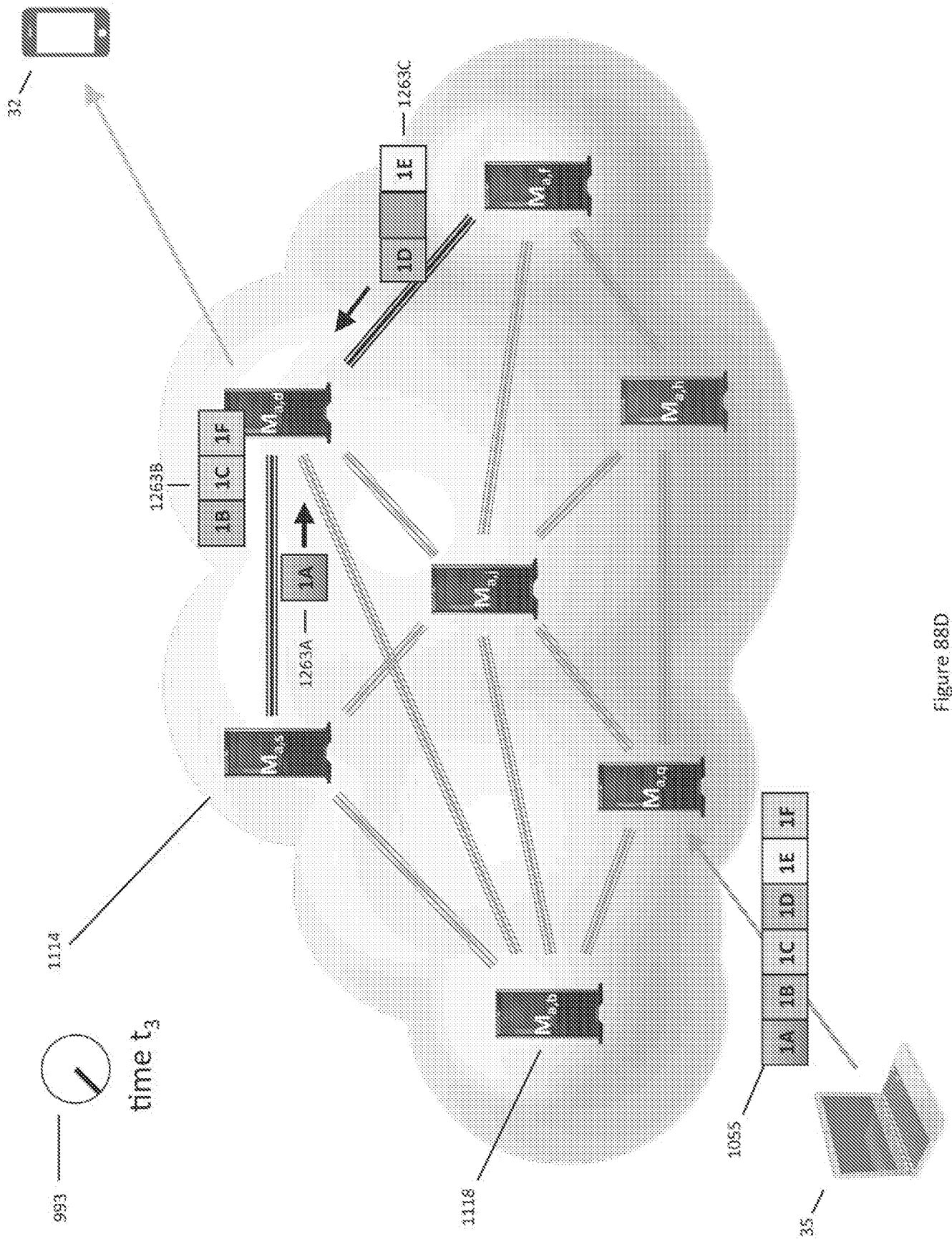


Figure 88D

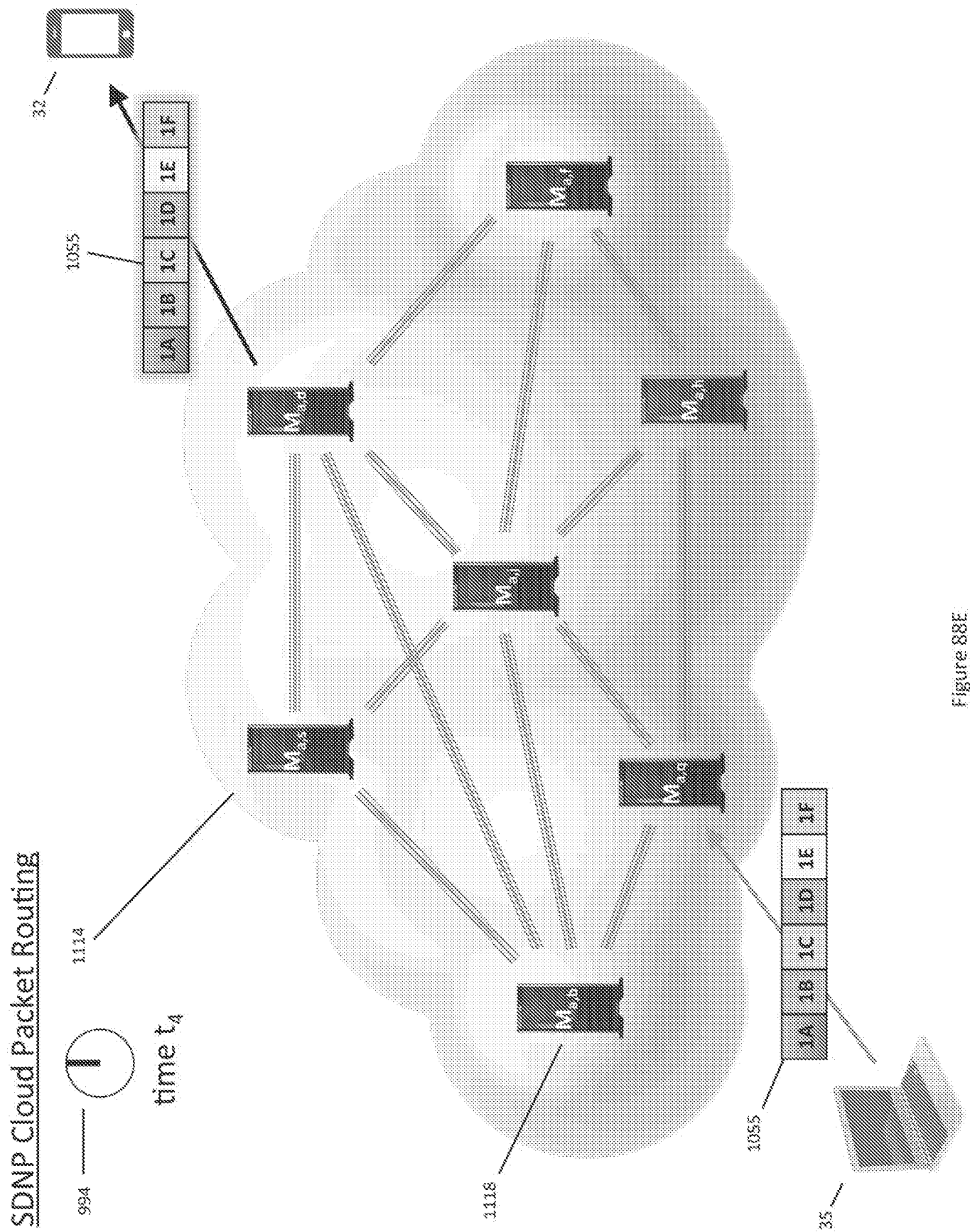


Figure 88E

SDNP Cloud Packet Routing

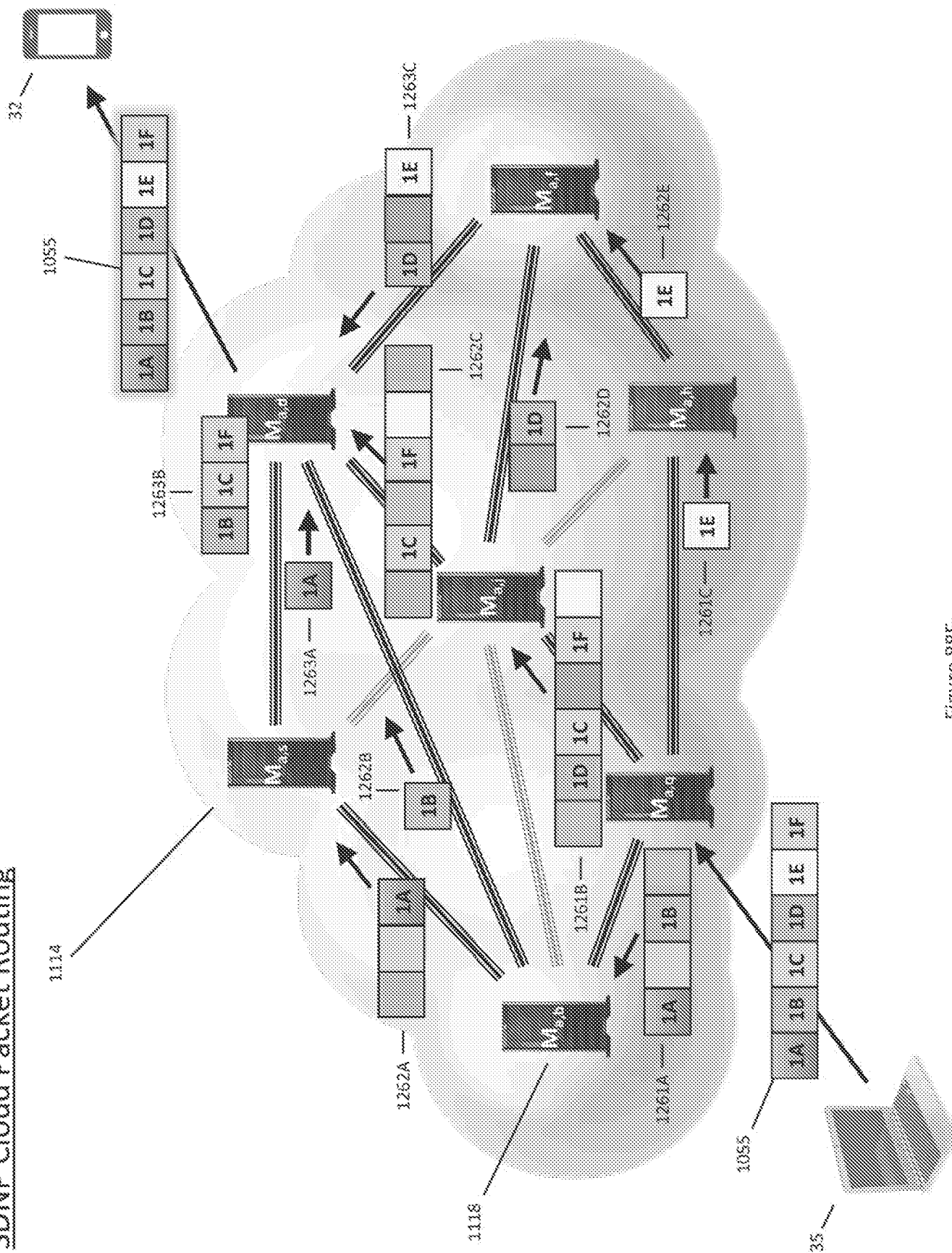
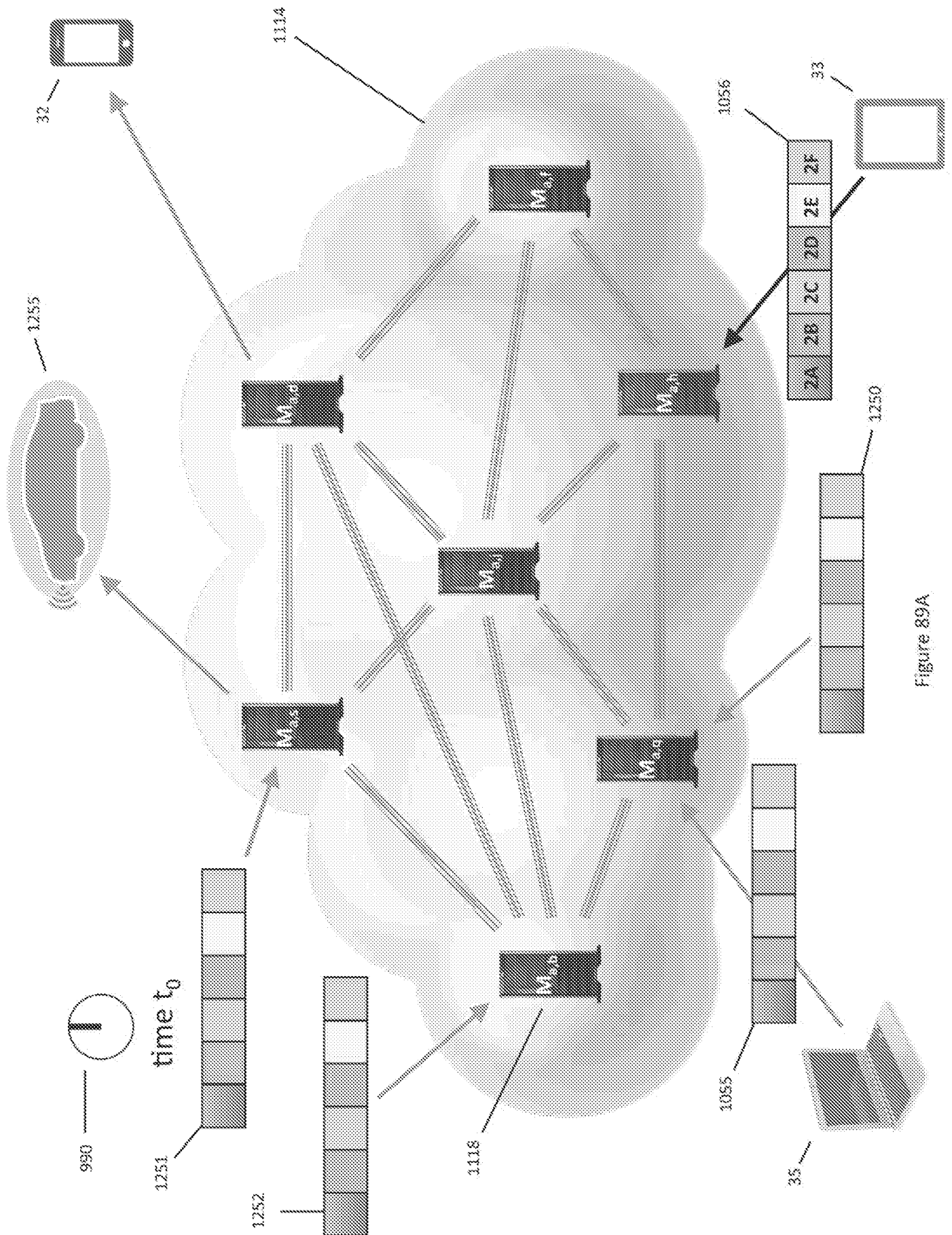
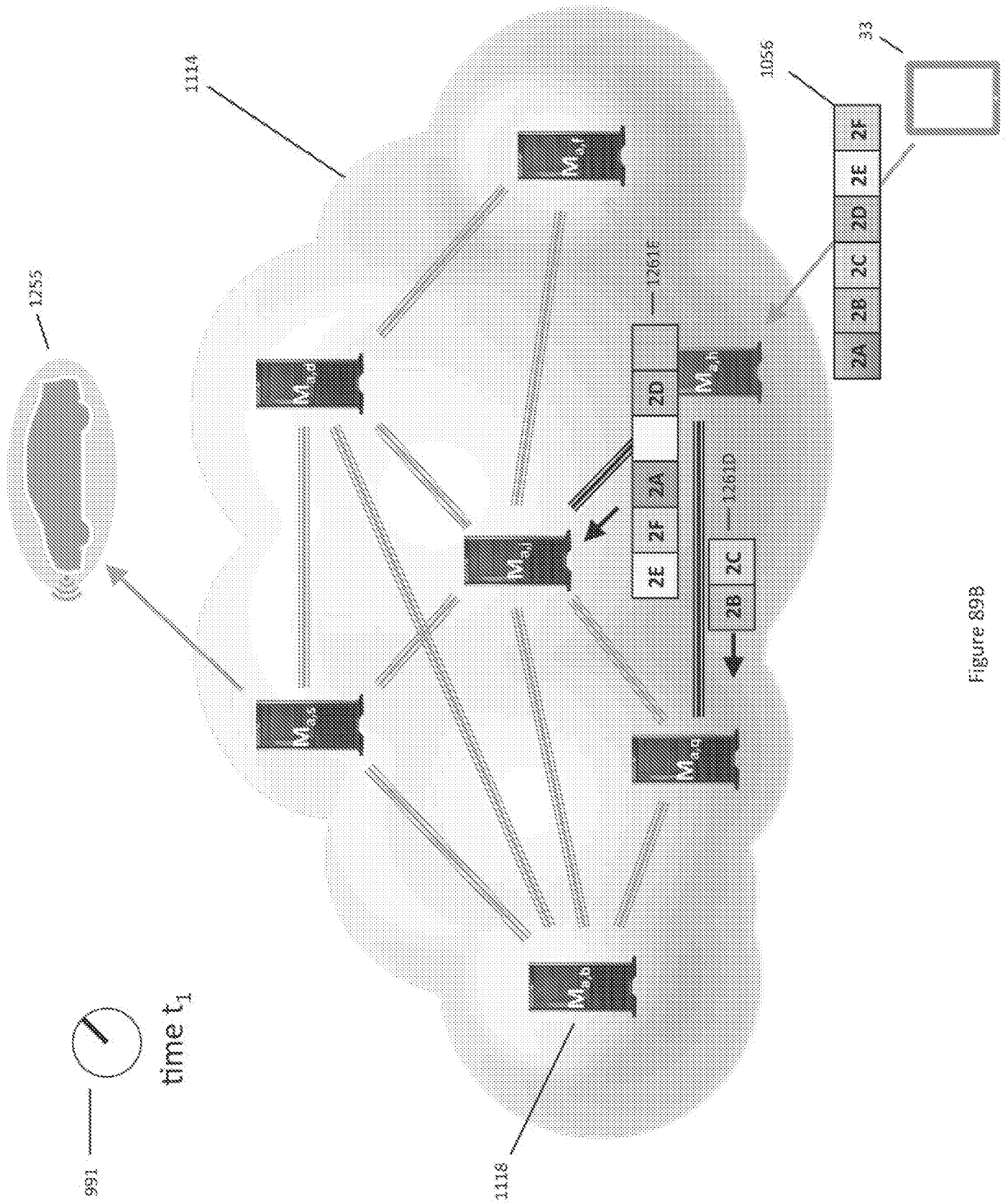


Figure 88F





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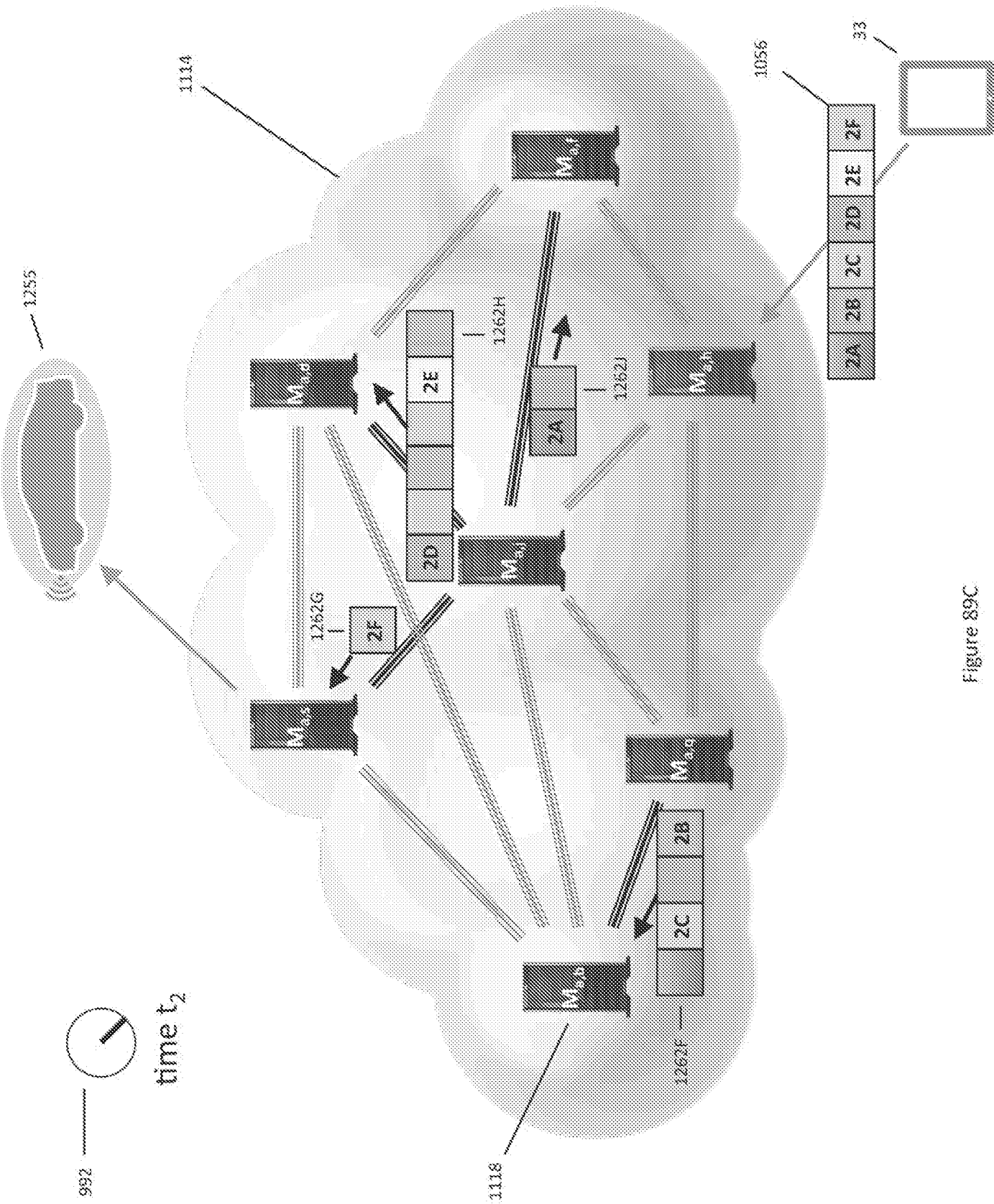


Figure 89C

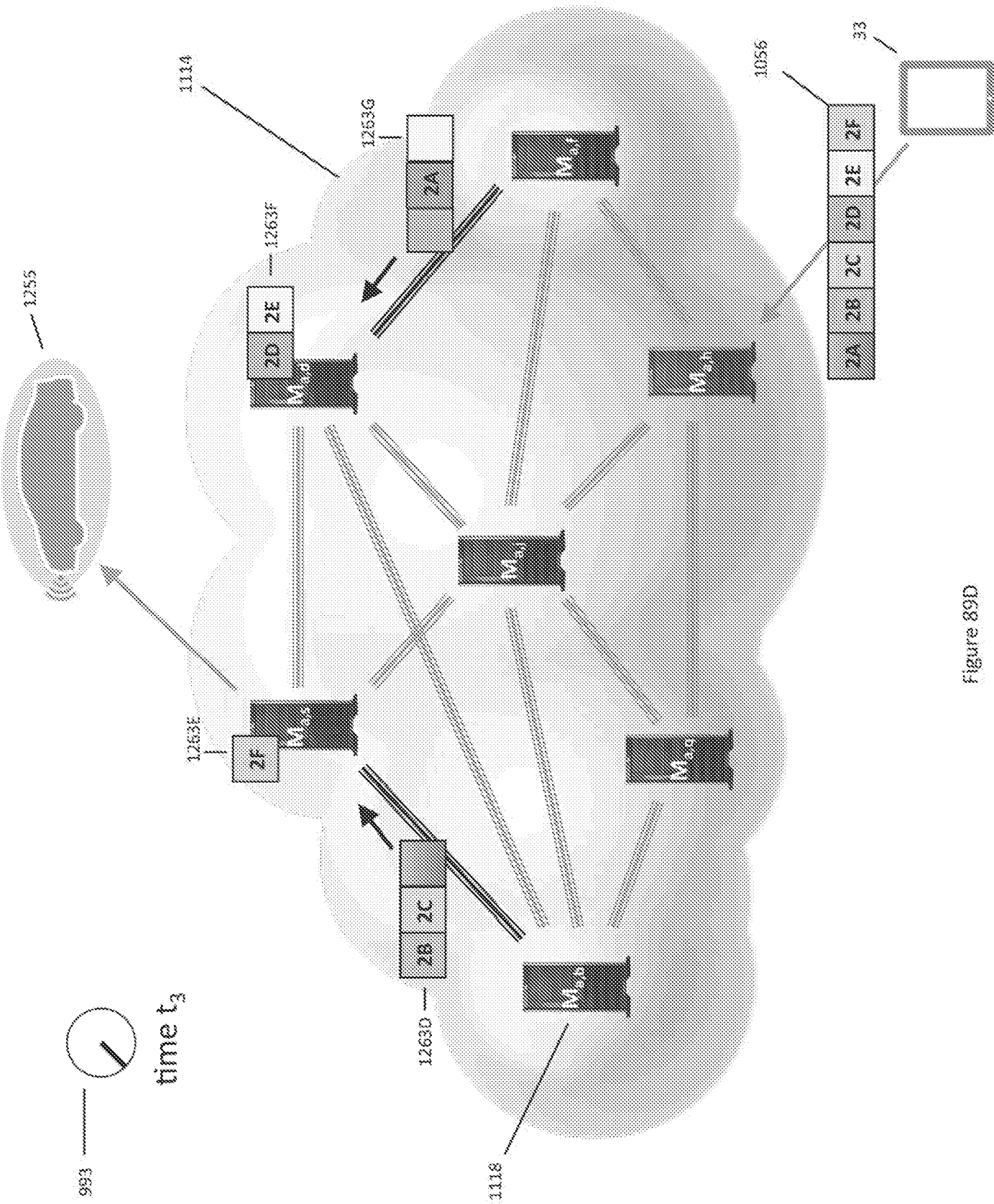


Figure 89D

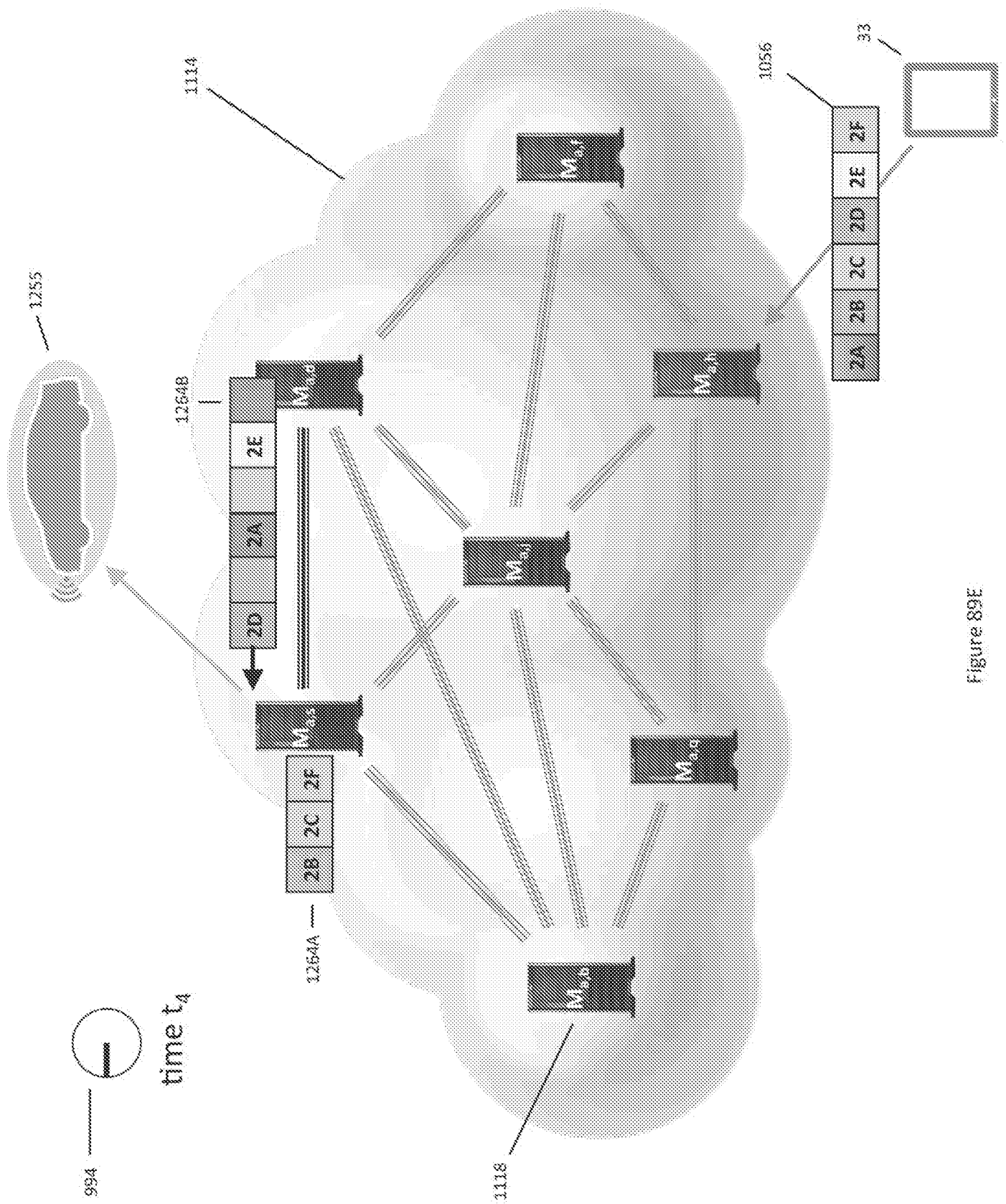


Figure 89E

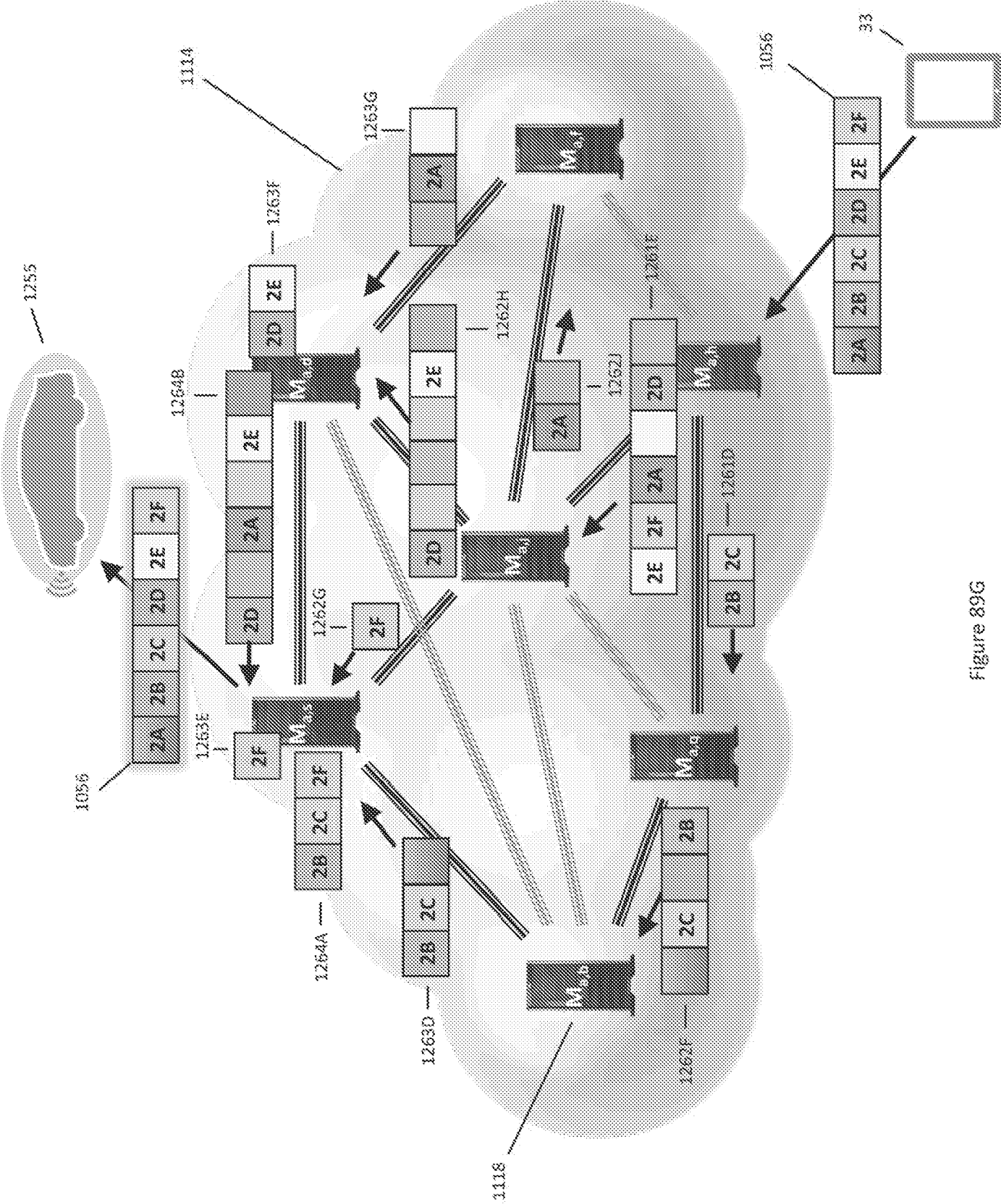


Figure 89G

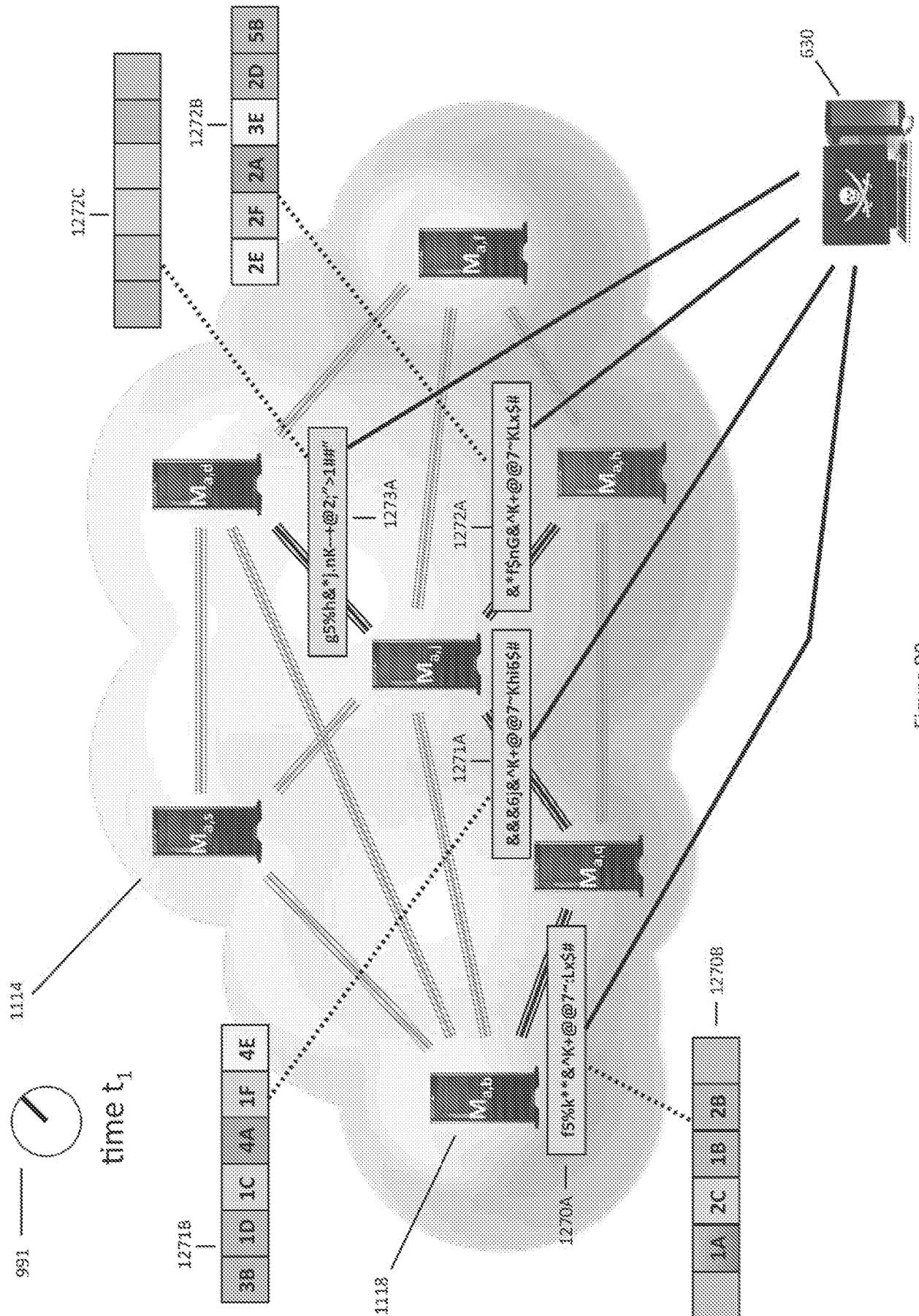


Figure 90

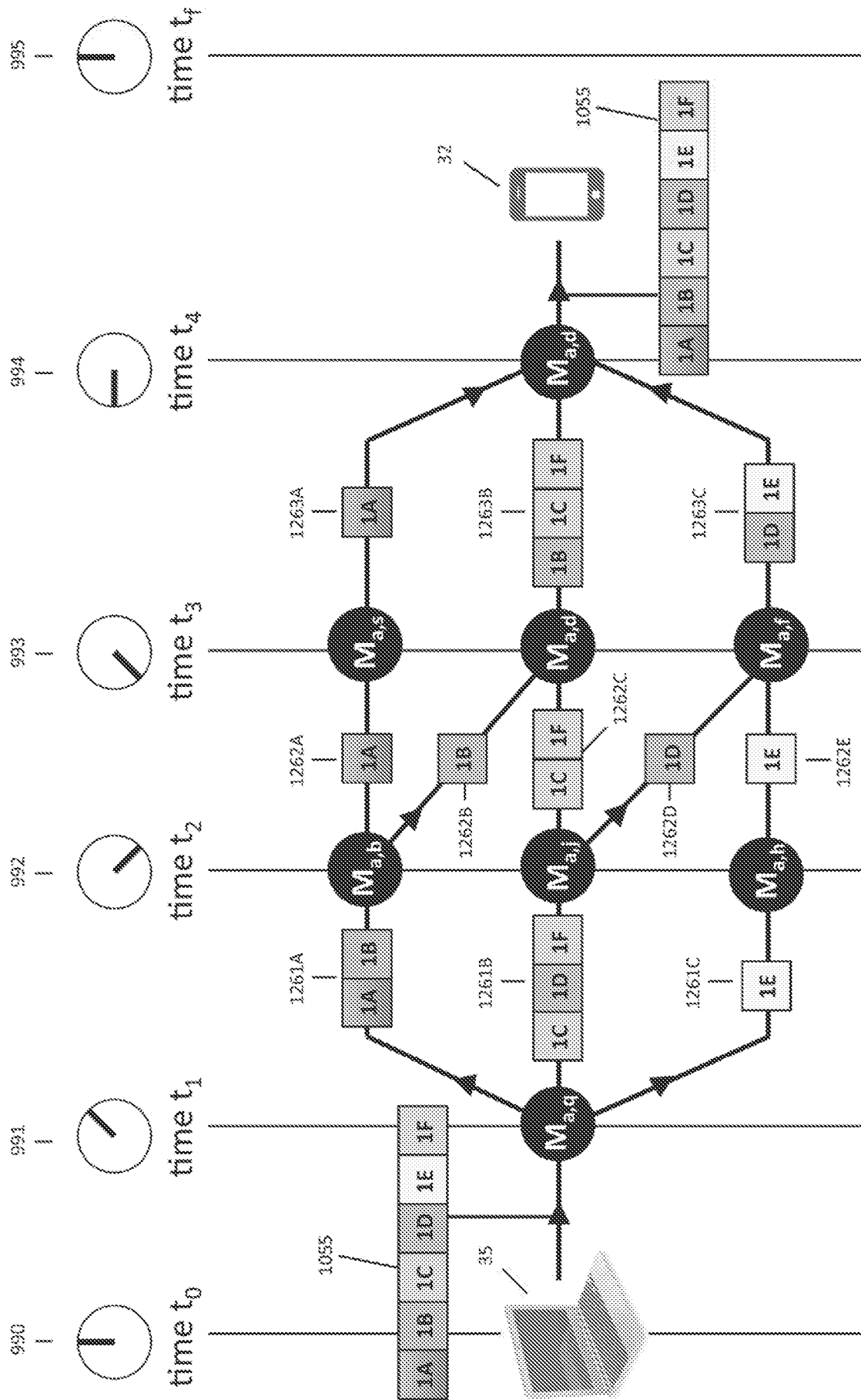


Figure 91A

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Time In	Source Nodes	Receiving Nodes	Inbound Packet	Time Last Encrypted	Time Last Scrambled	Last Meshed	Outbound Packet
t_3	$M_{a,b}$	$M_{a,s}$	1A 1262A	t_2	t_1 or t_2	t_2	1A 1263A
t_3	$M_{a,b}$	$M_{a,d}$	1B 1262B	t_2	t_1 or t_2	t_2	1B 1C 1F 1263B
t_3	$M_{a,j}$	$M_{a,d}$	1C 1F 1262C	t_2	t_1 or t_2	t_2	
t_3	$M_{a,j}$	$M_{a,f}$	1D 1262D	t_2	t_1 or t_2	t_2	1D 1E 1263C
t_3	$M_{a,h}$	$M_{a,f}$	1E 1262E	t_2	t_1 or t_2	t_2	

Figure 91B

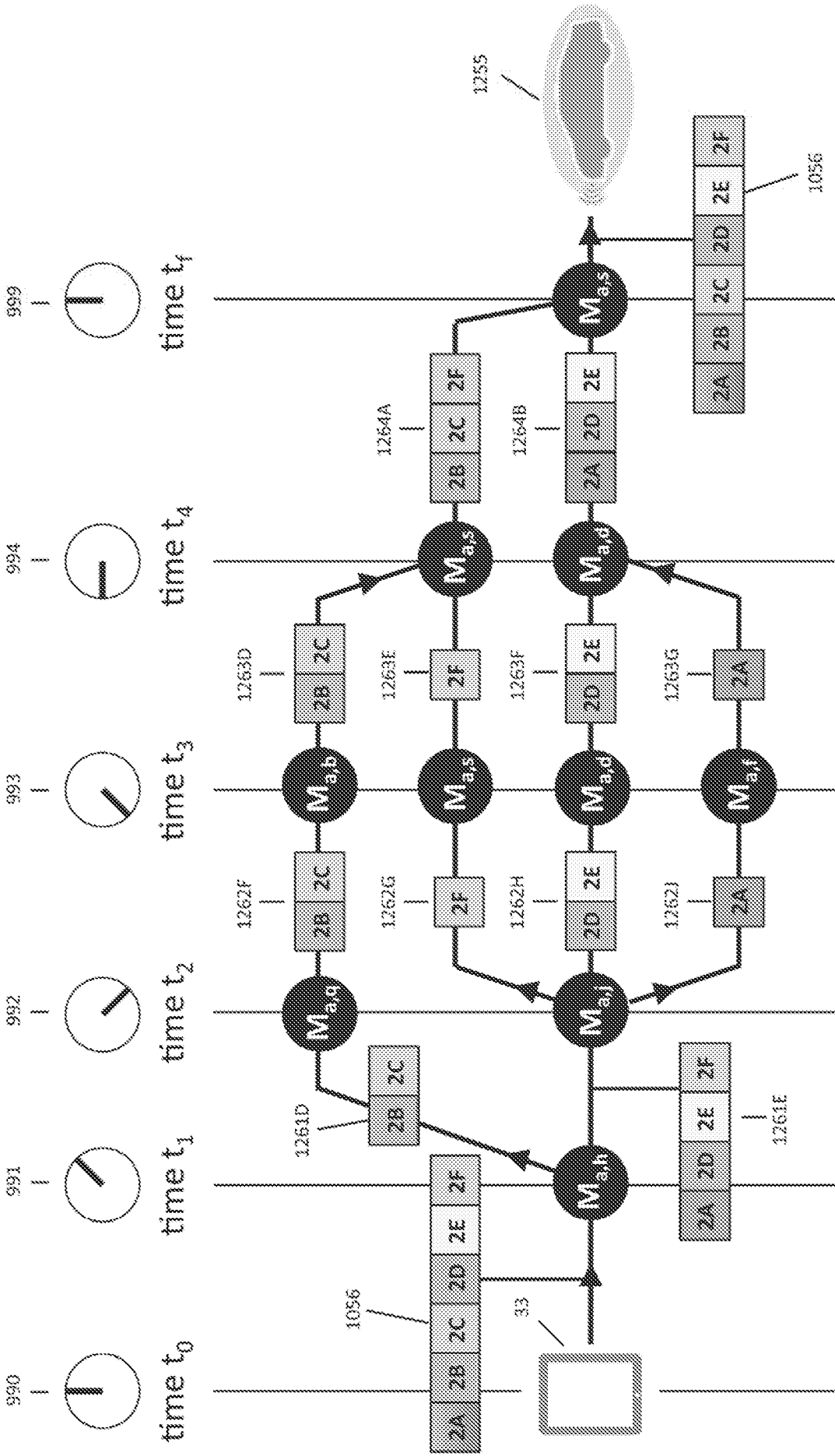


Figure 91C

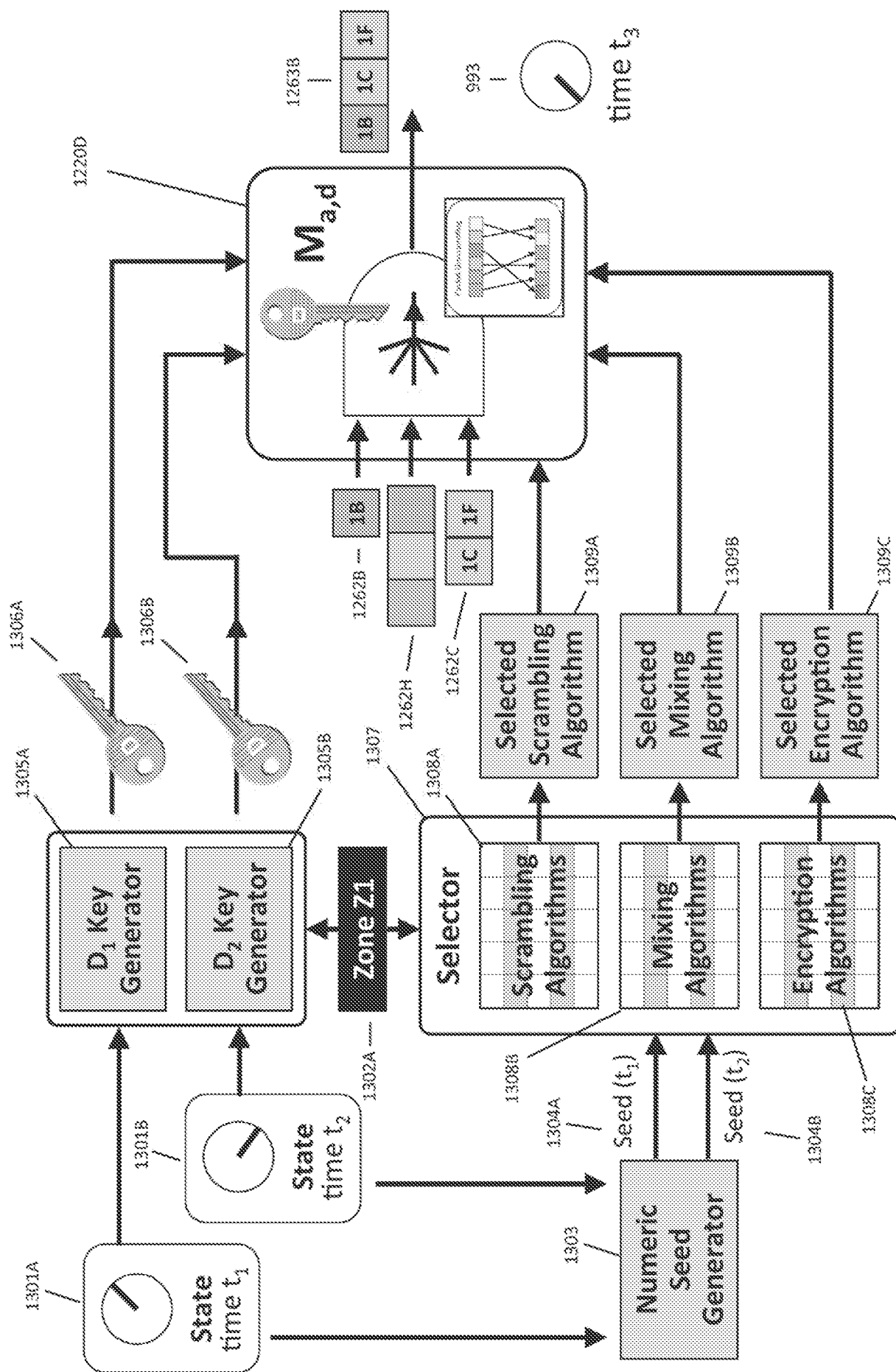


Figure 92A

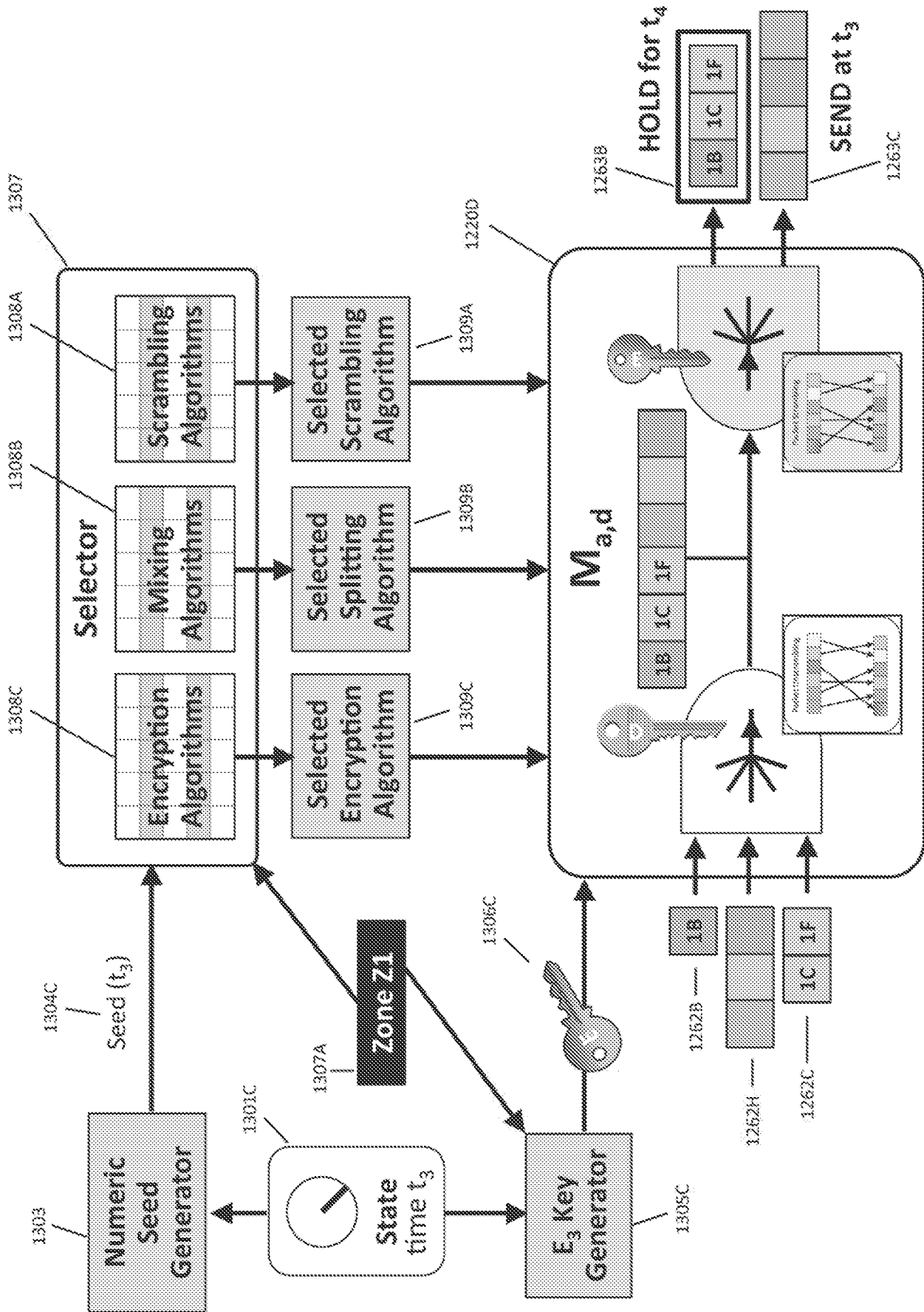


Figure 92B

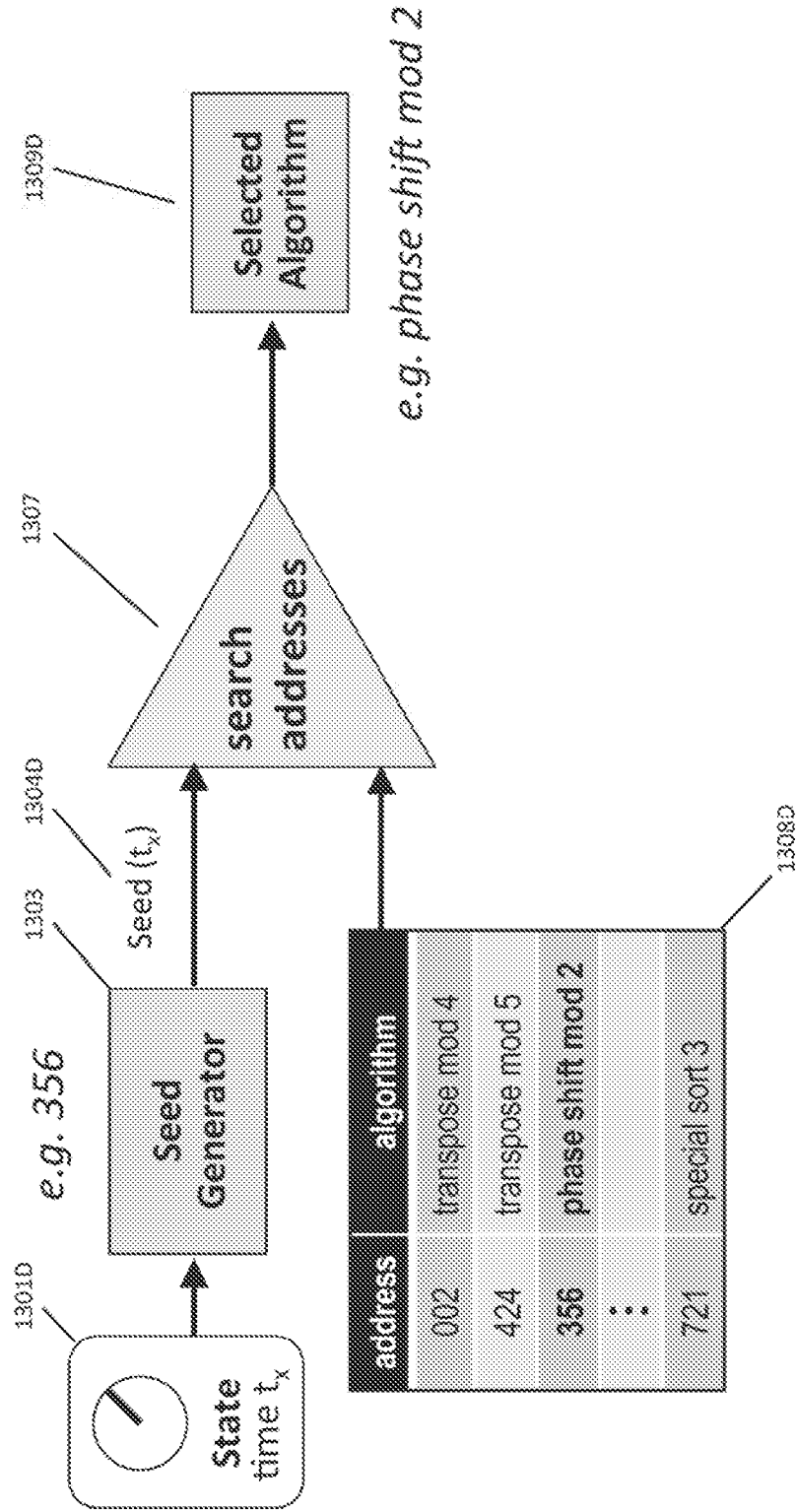


Figure 93

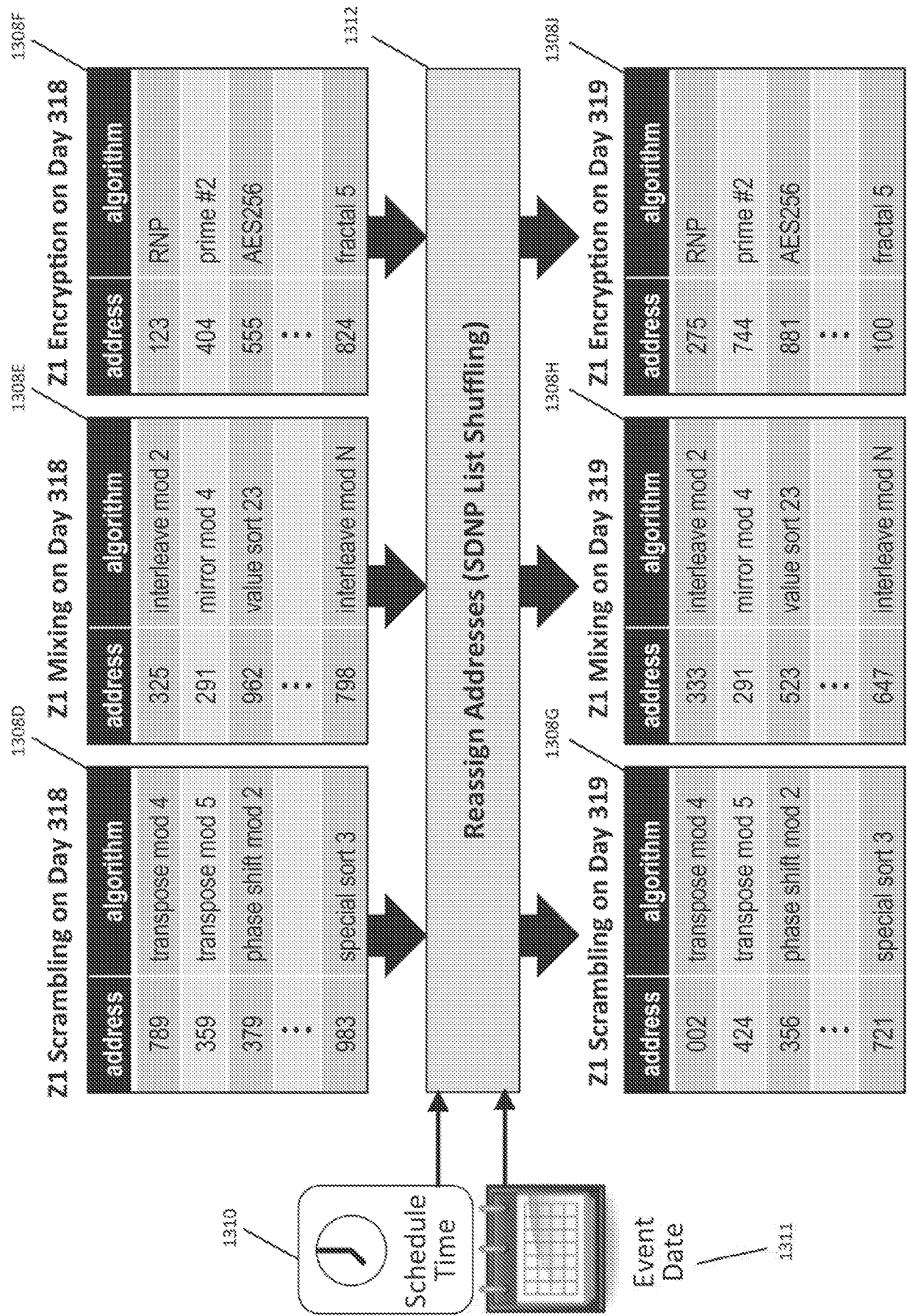


Figure 94

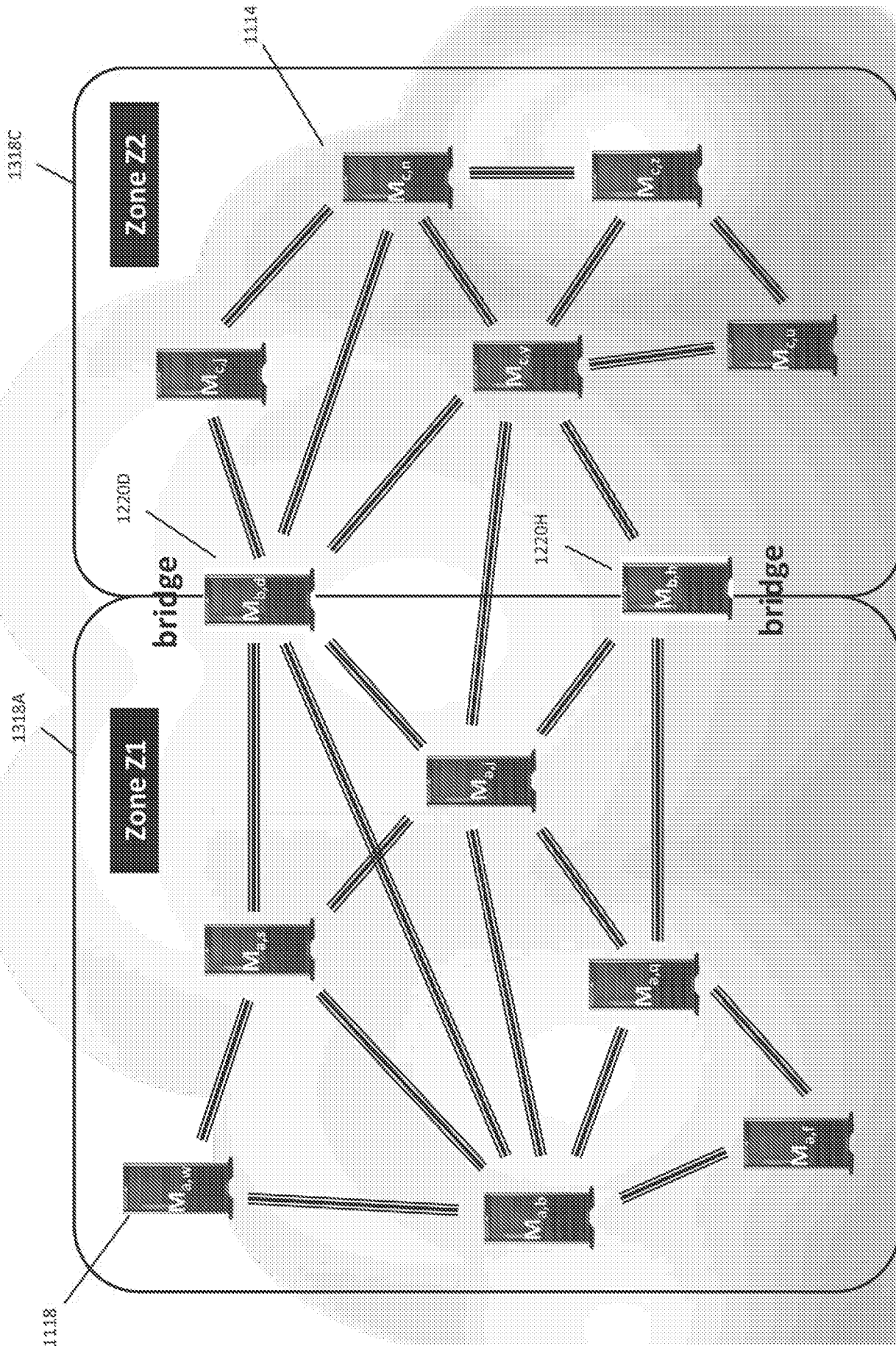


Figure 95A

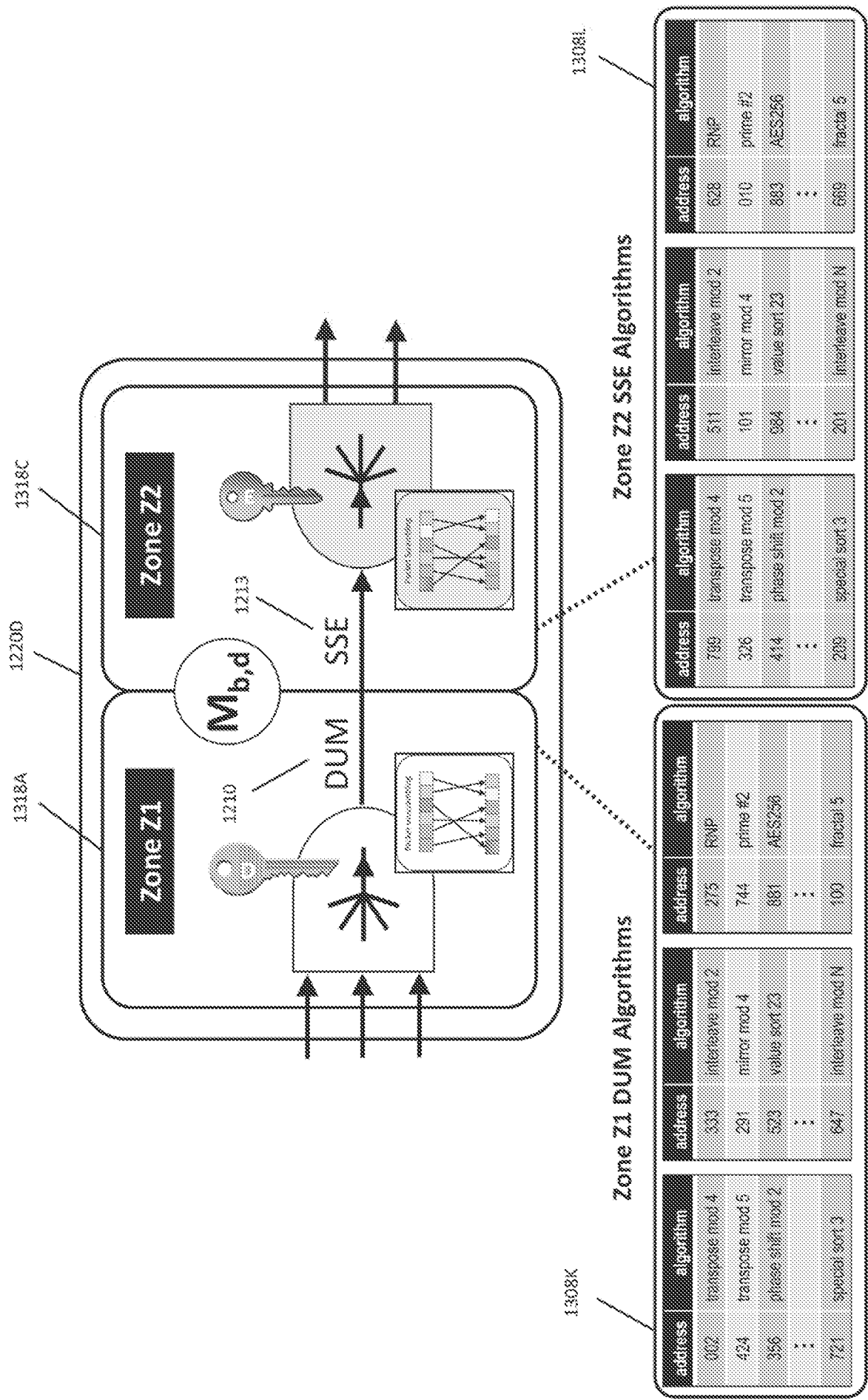


Figure 95B

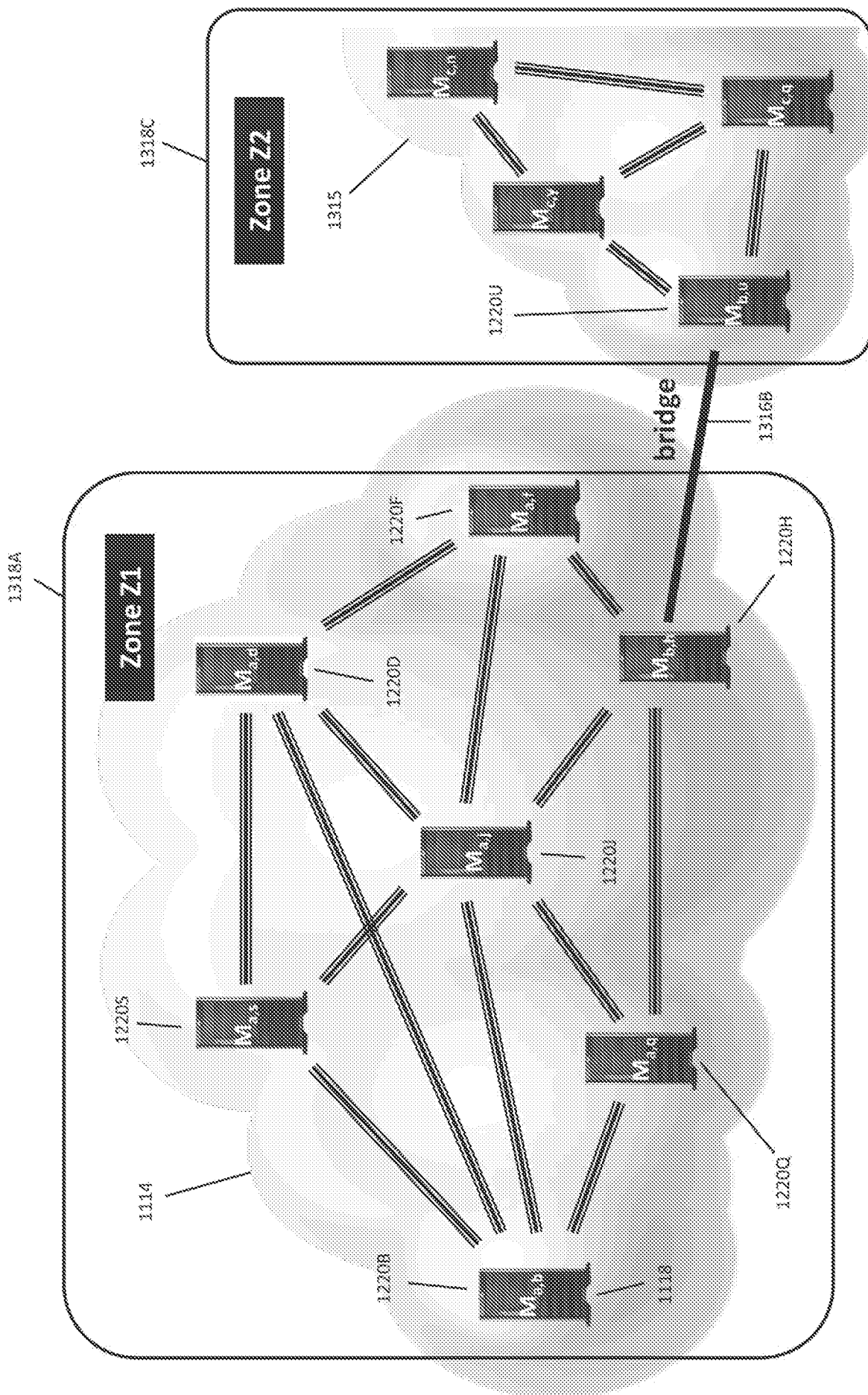


Figure 35D

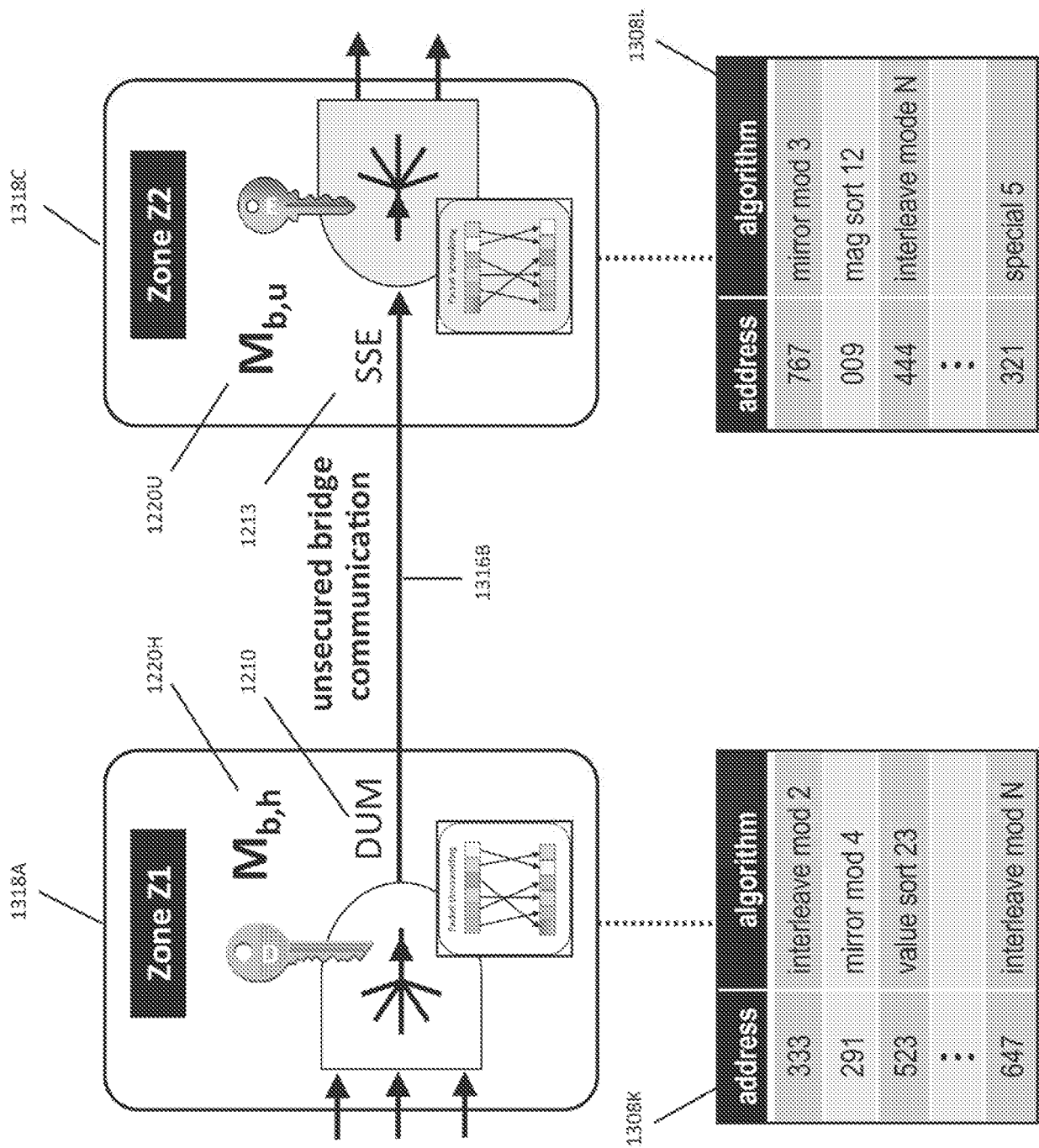


Figure 95E

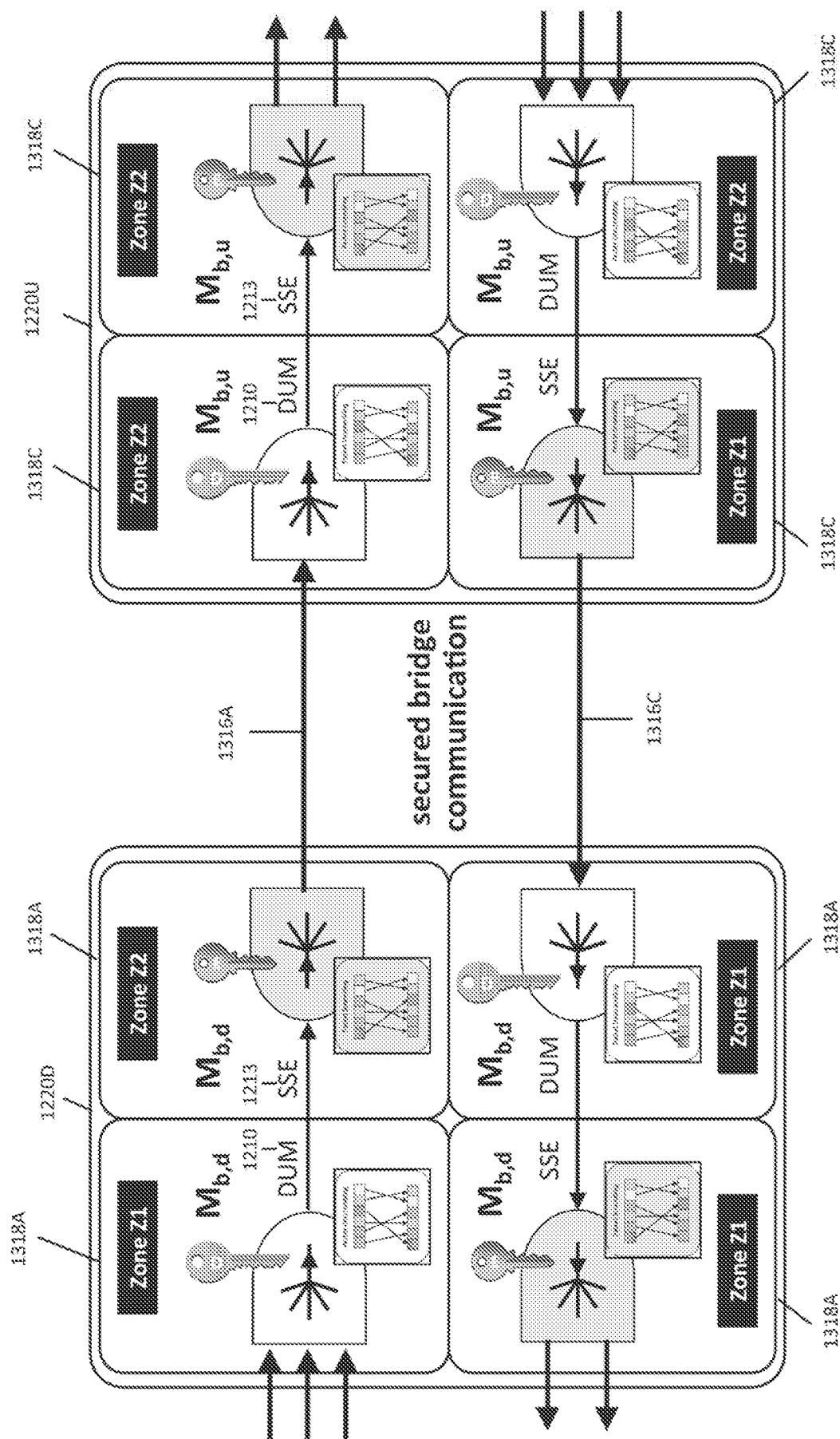


Figure 95F

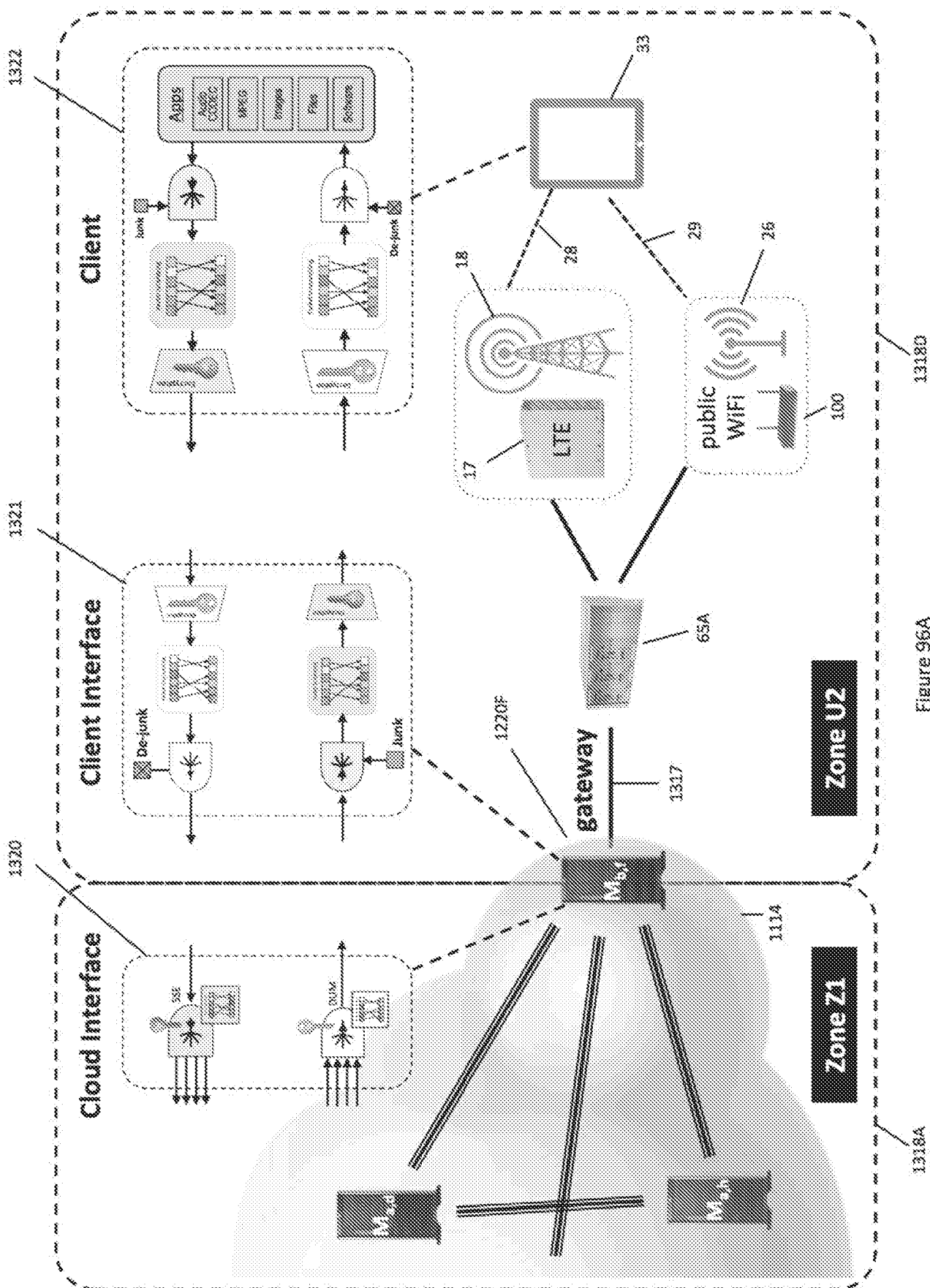


Figure 96A

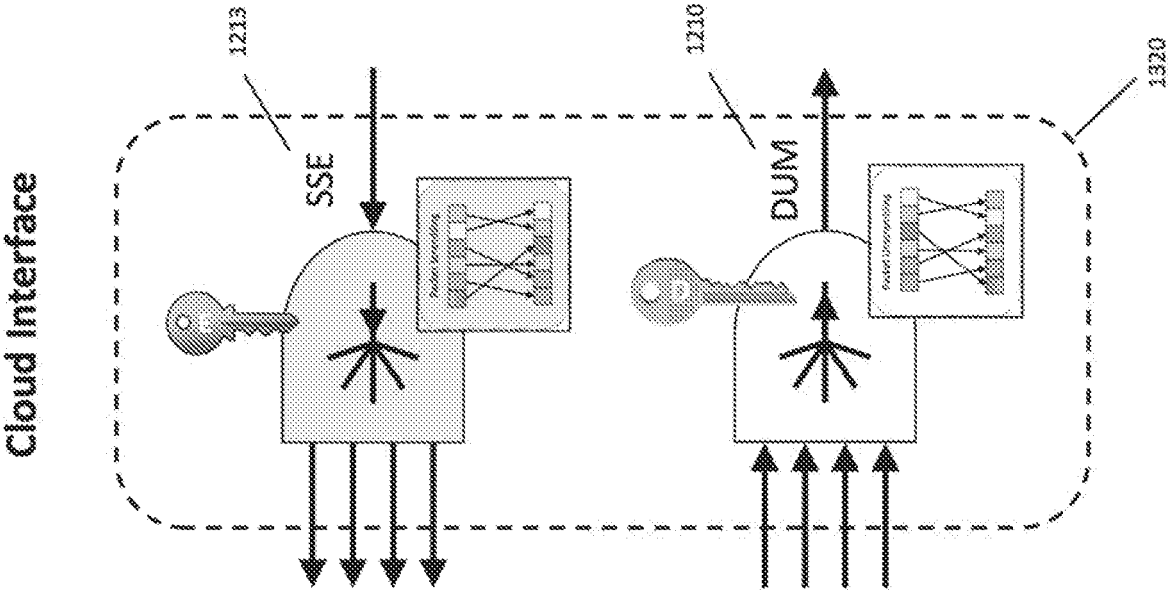


Figure 968

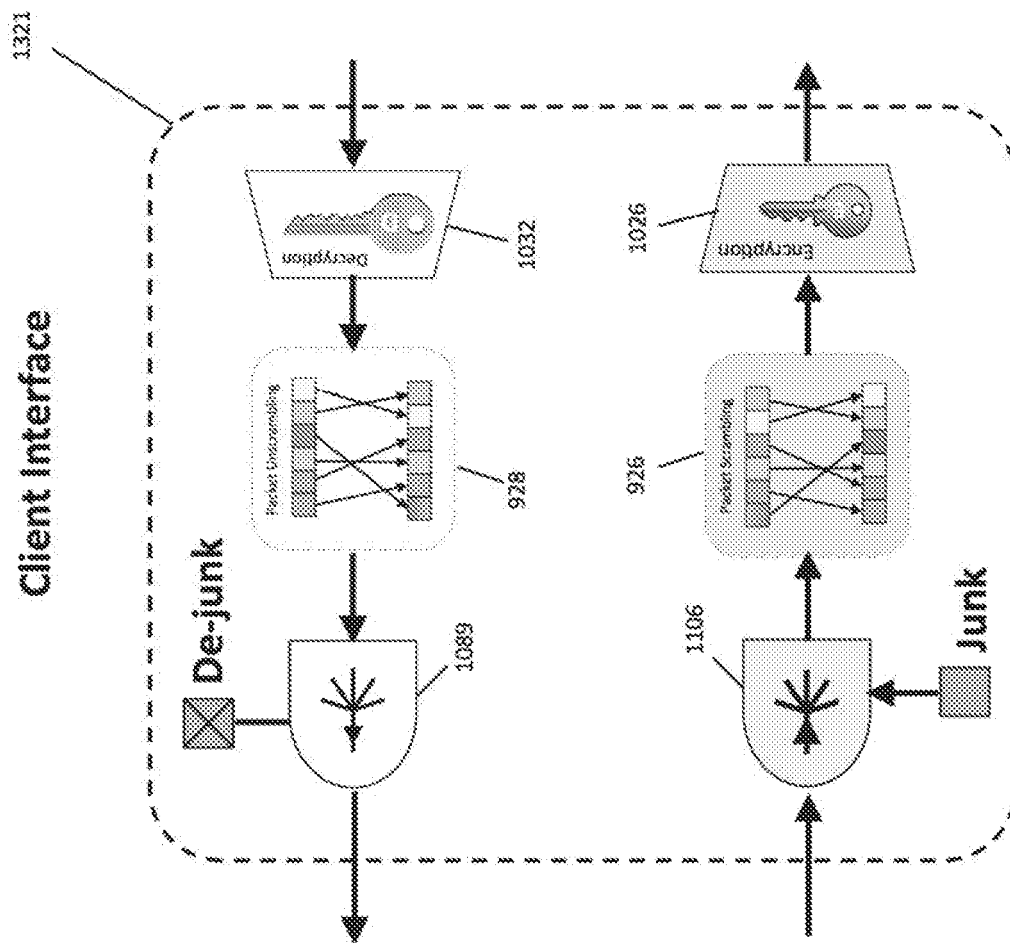


Figure 96C

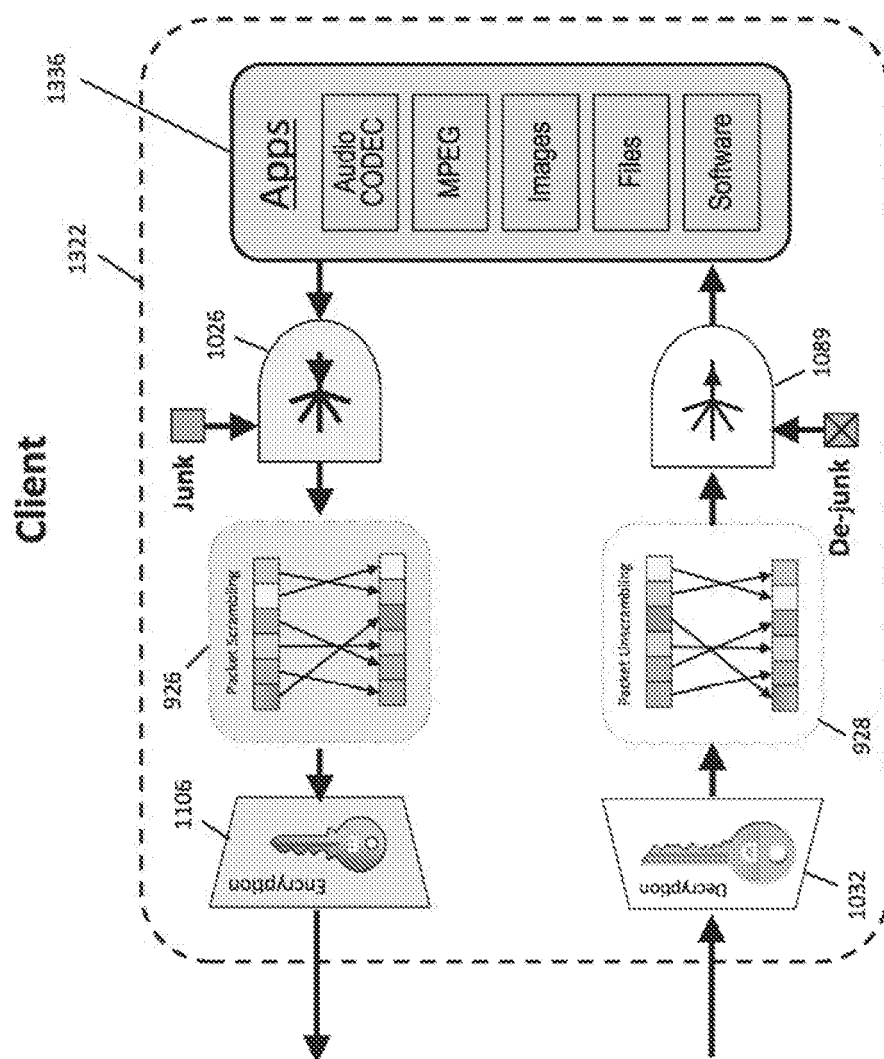


Figure 96D

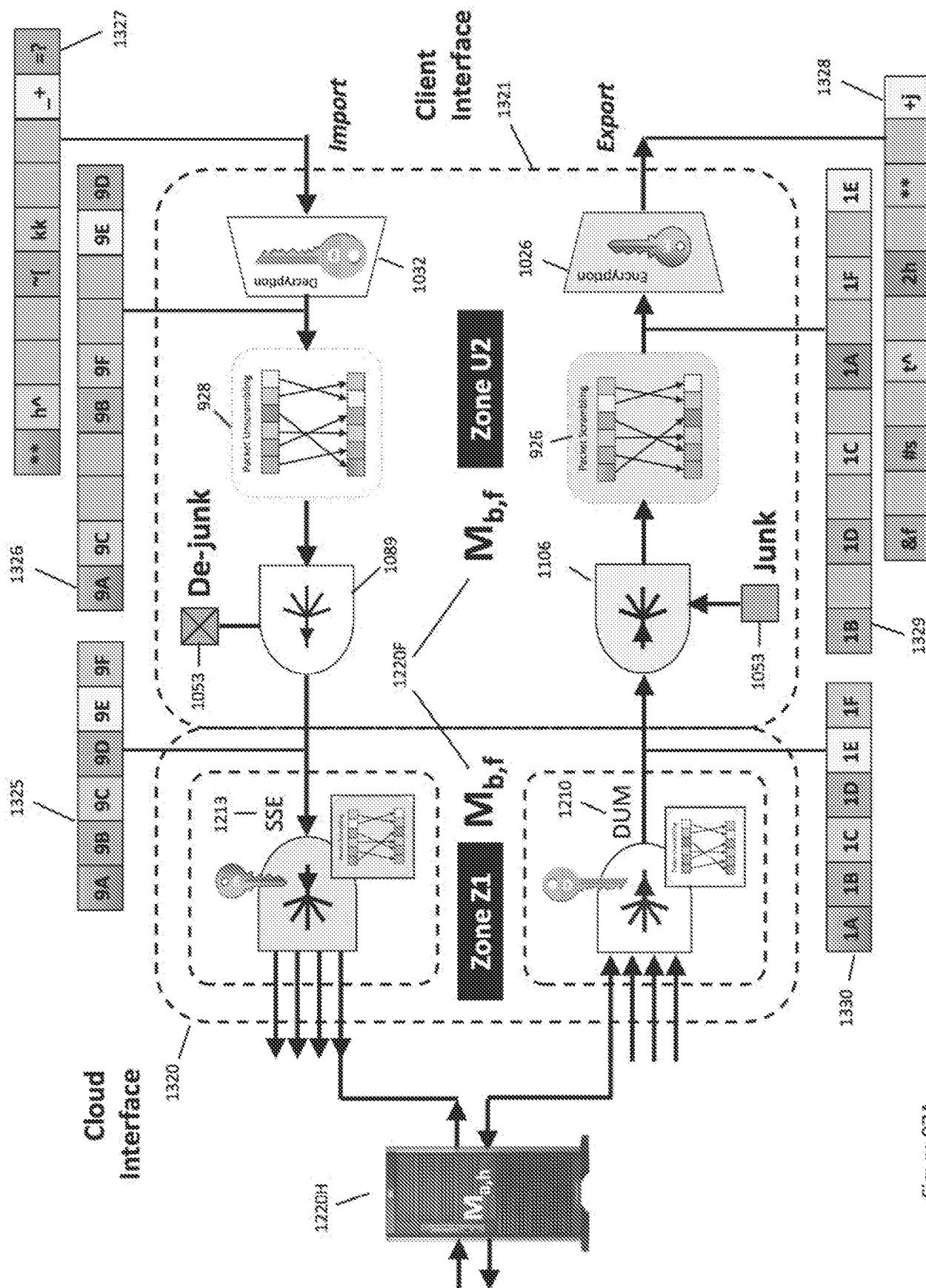


Figure 97A

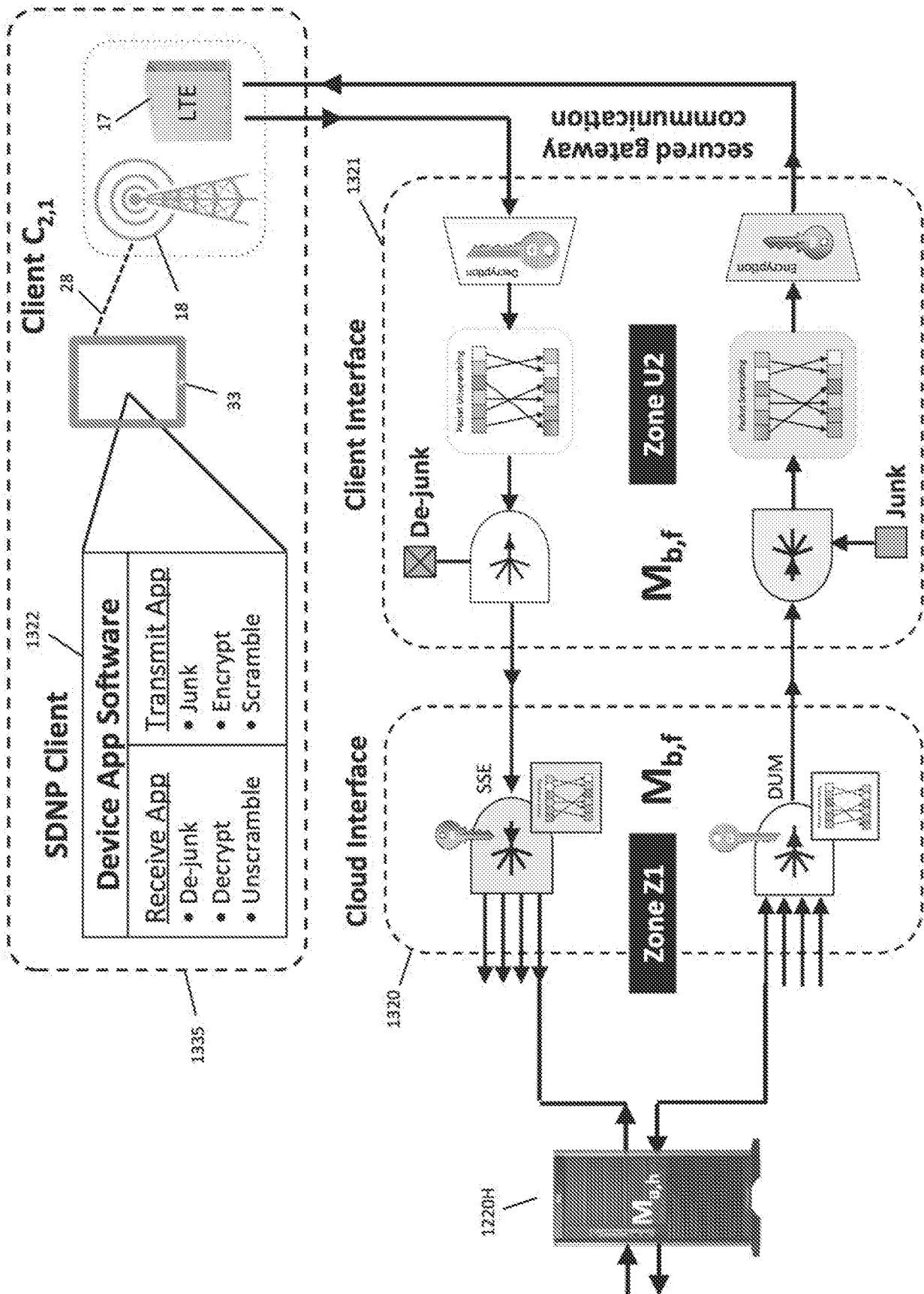


Figure 978

SDNP Client Interface

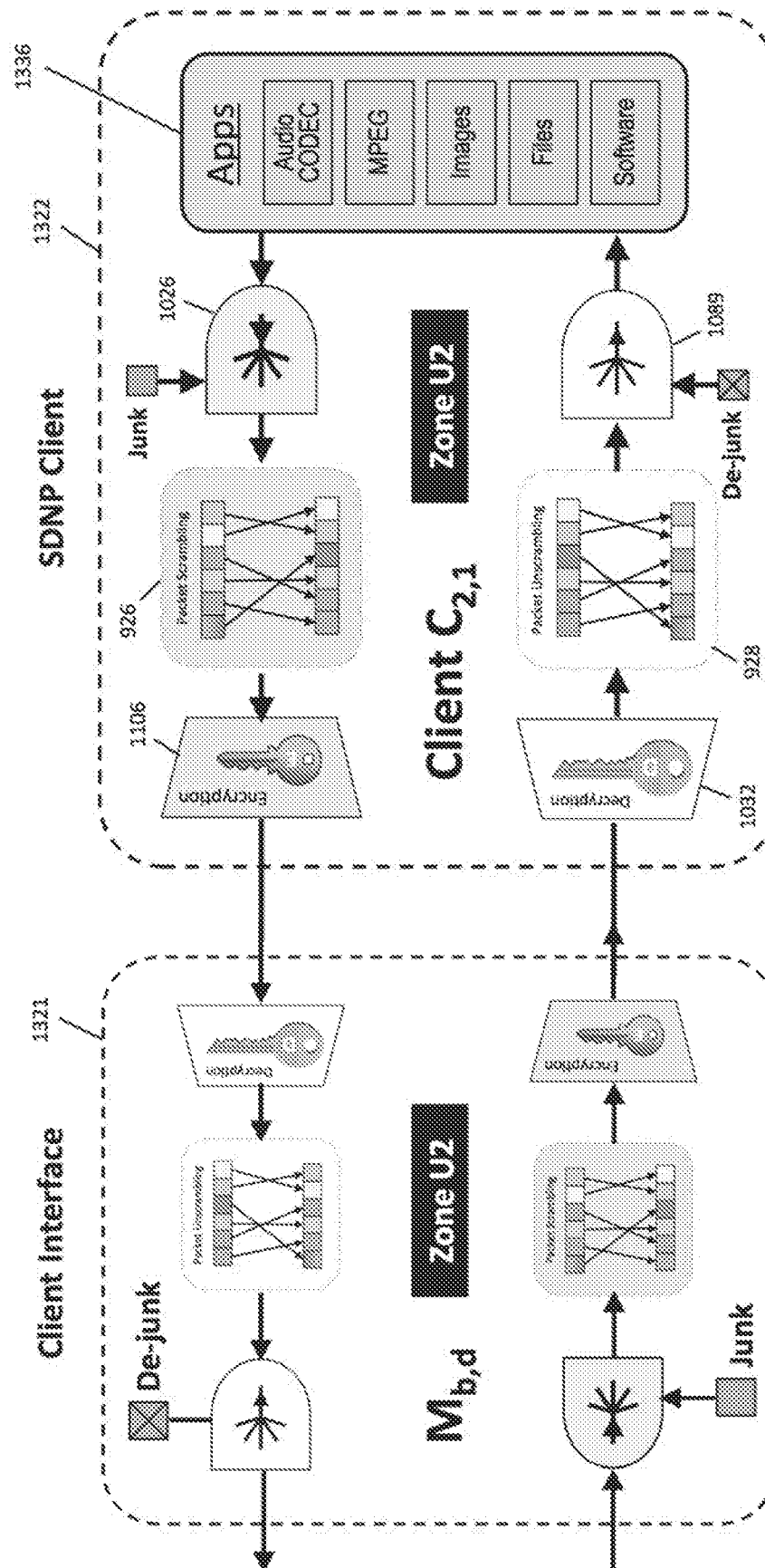


Figure 1

Key Management by Zone

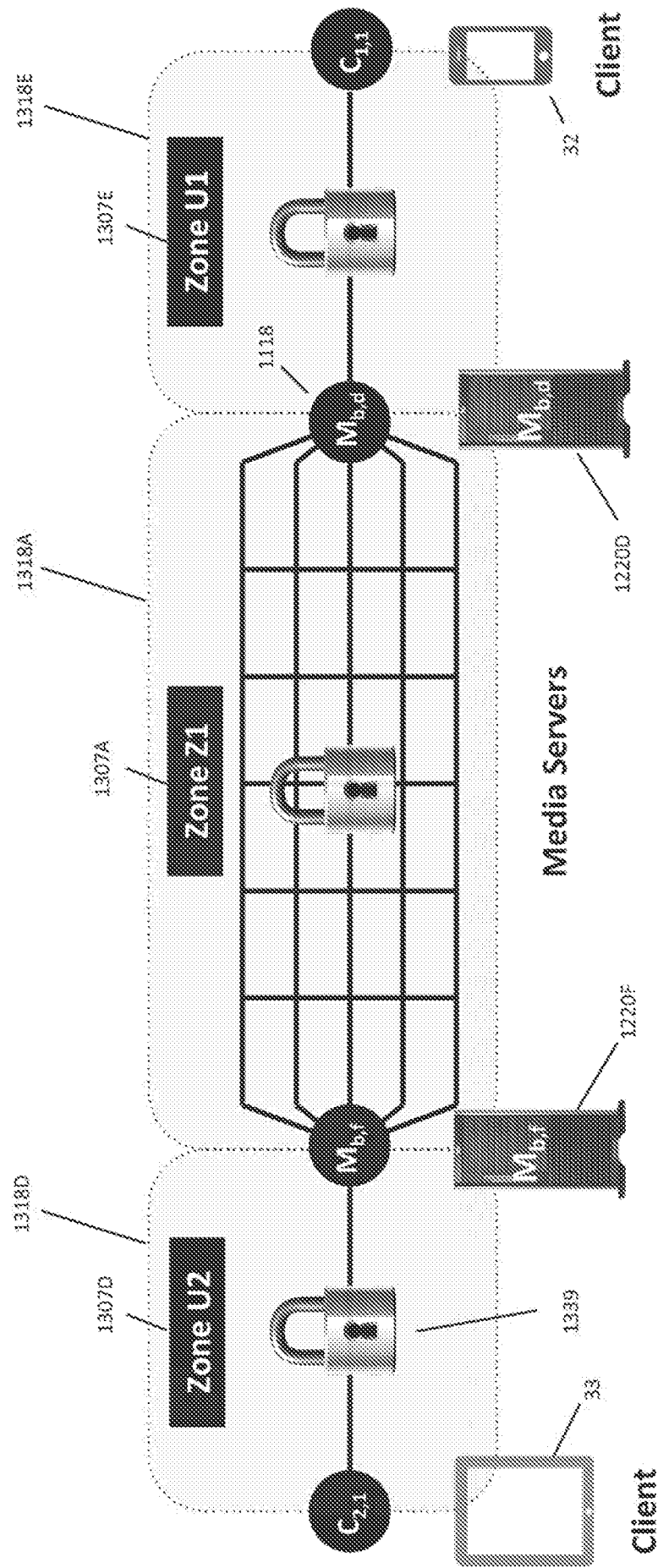


Figure 99A

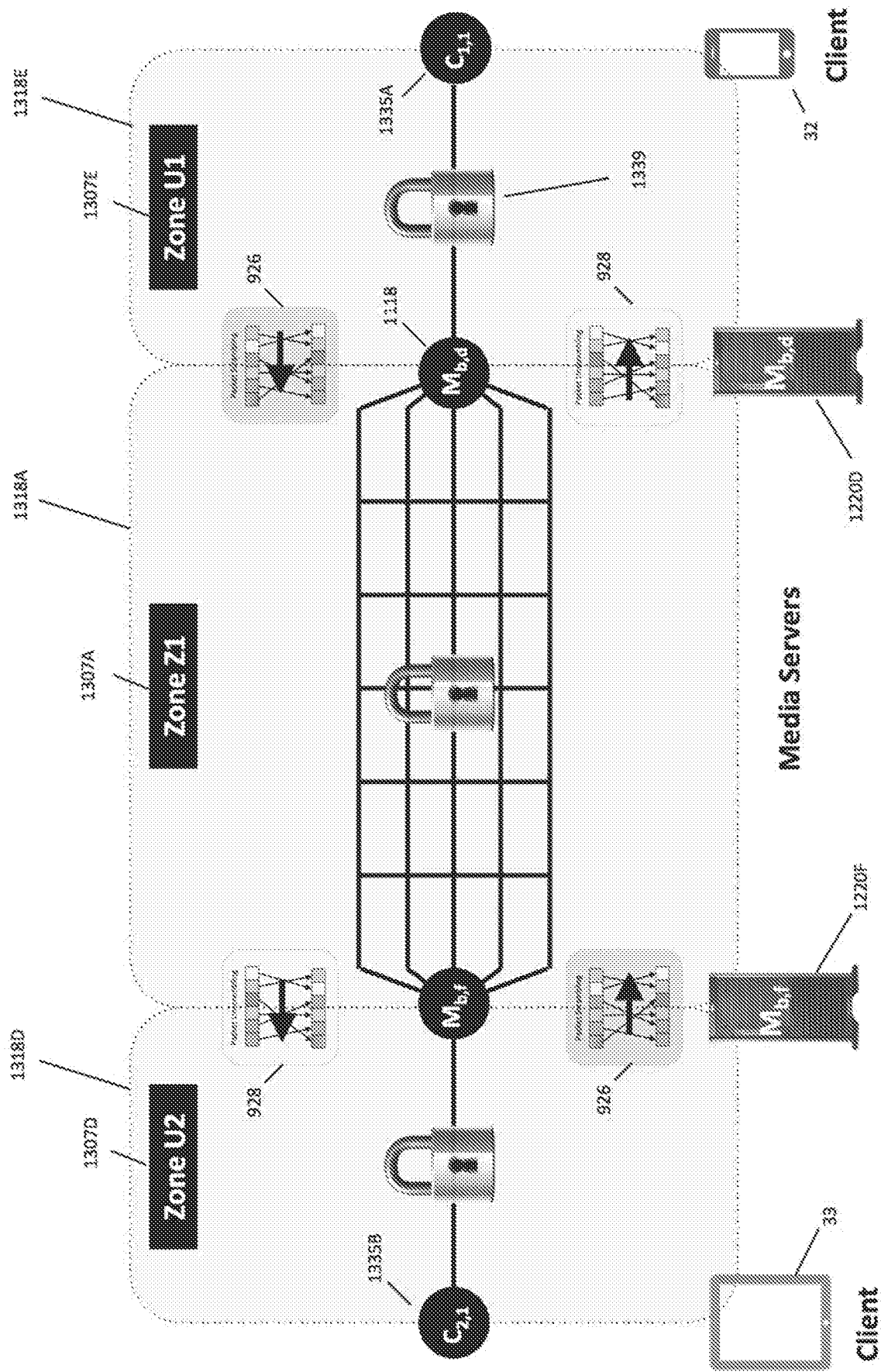


Figure 99B

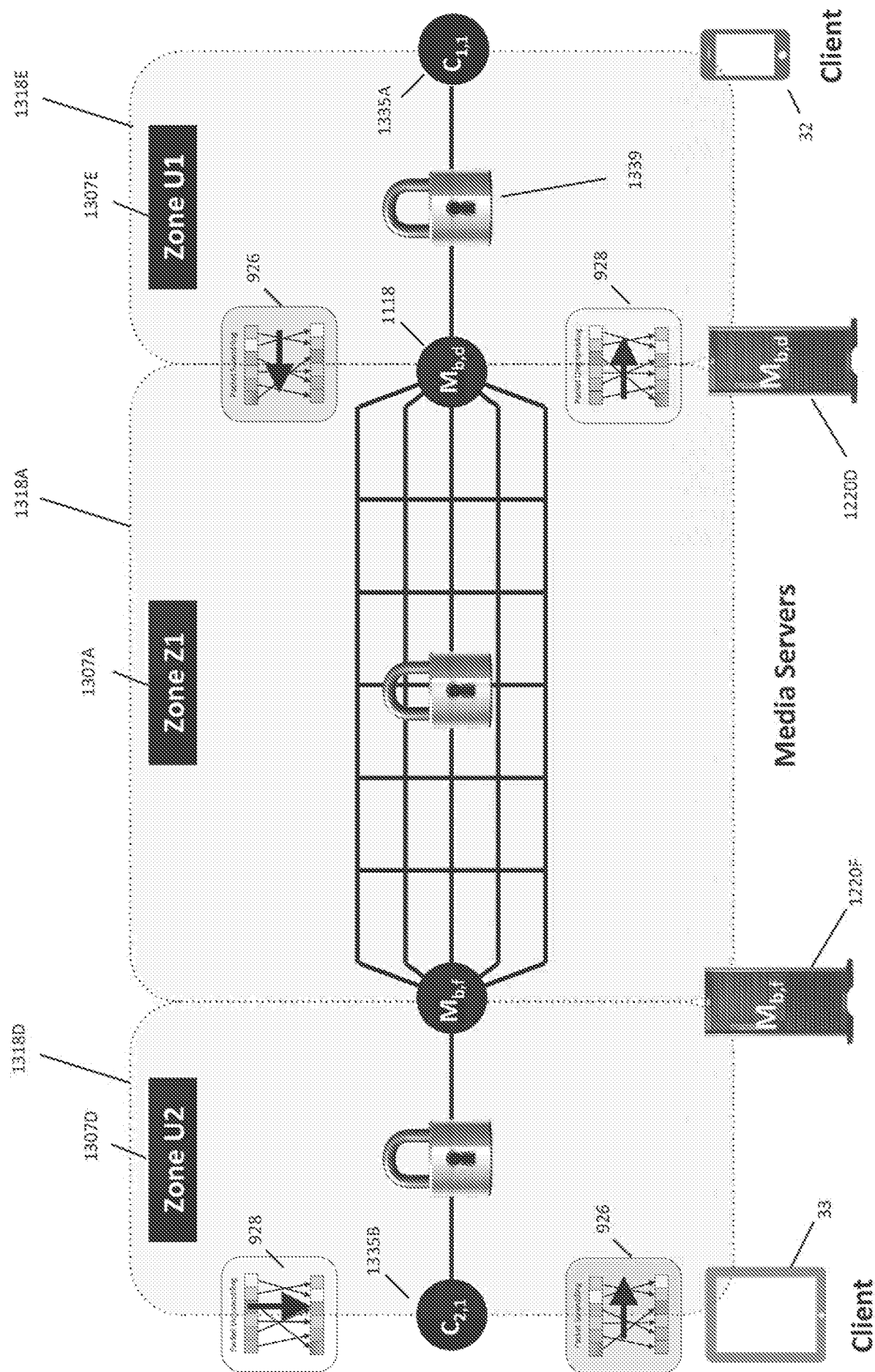


Figure 99C

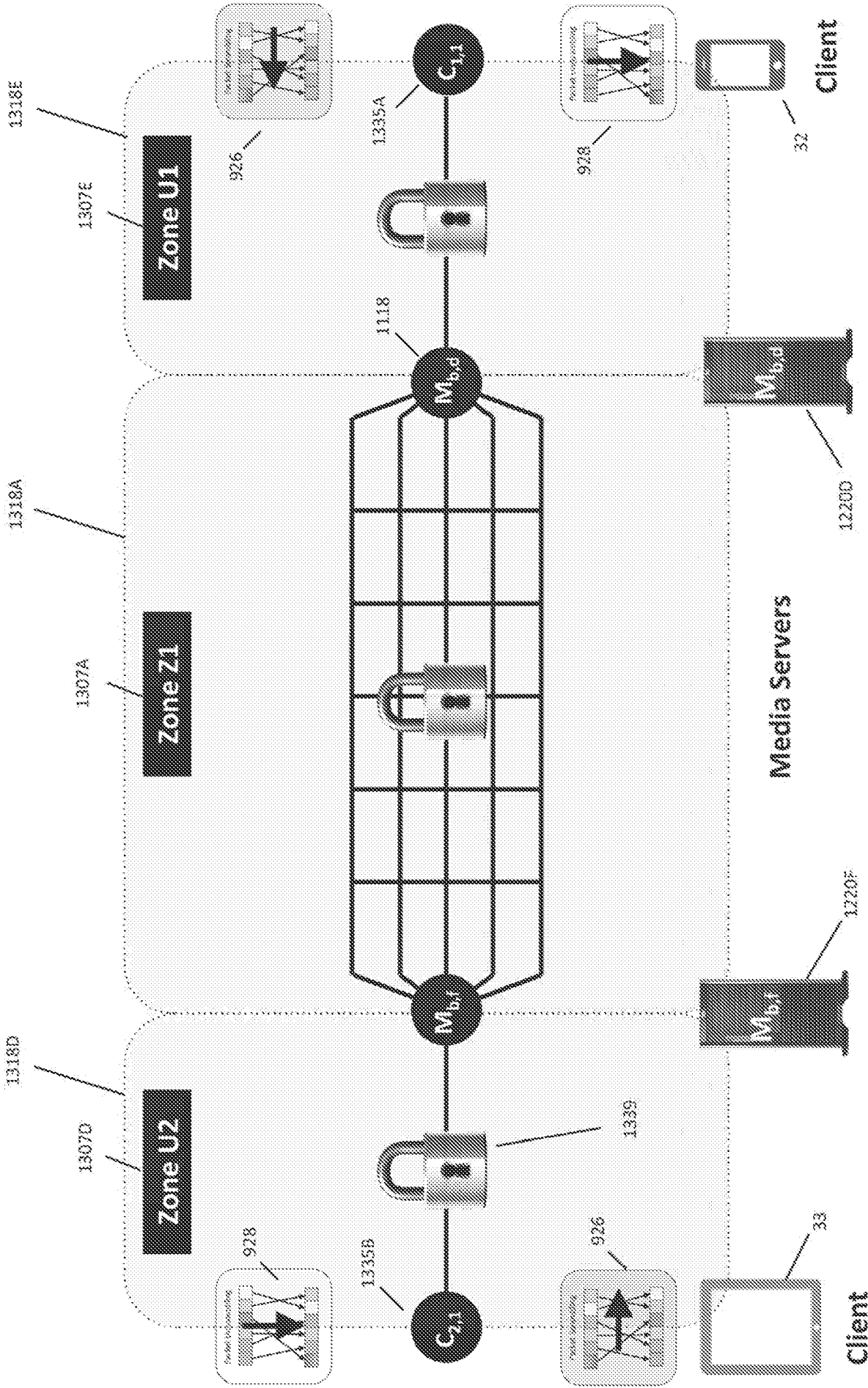


Figure 99D

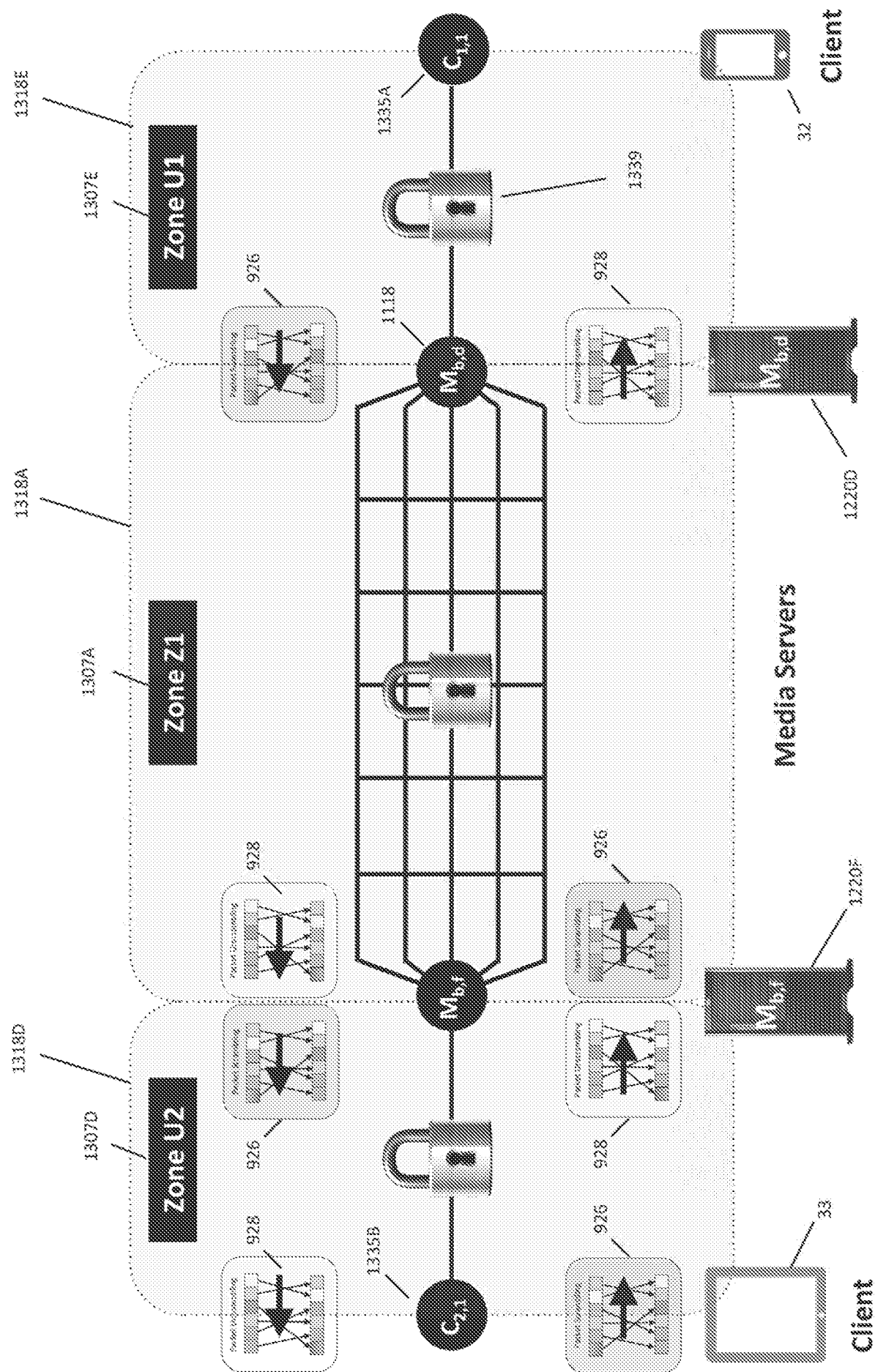


Figure 99E

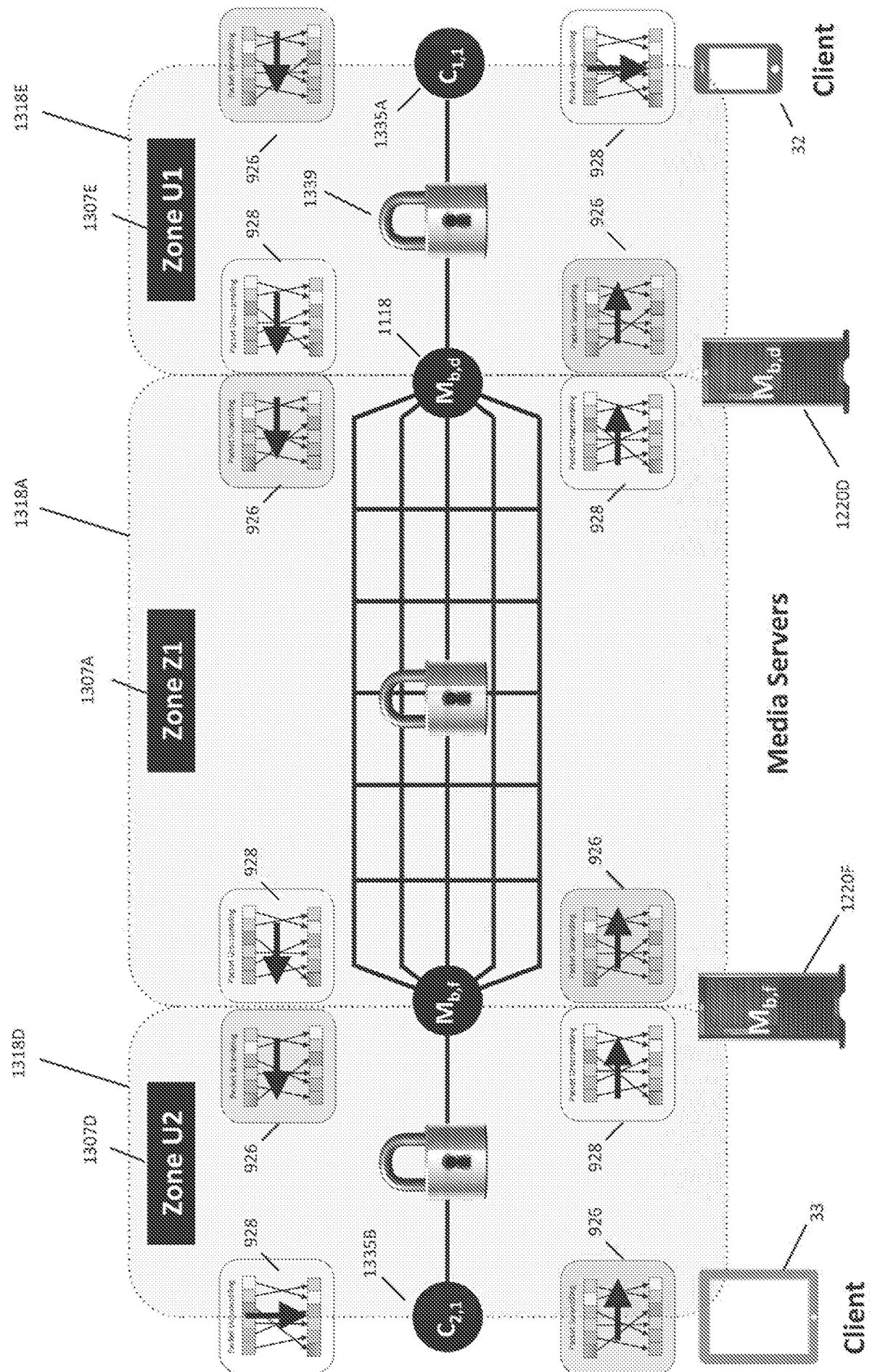


Figure 99f

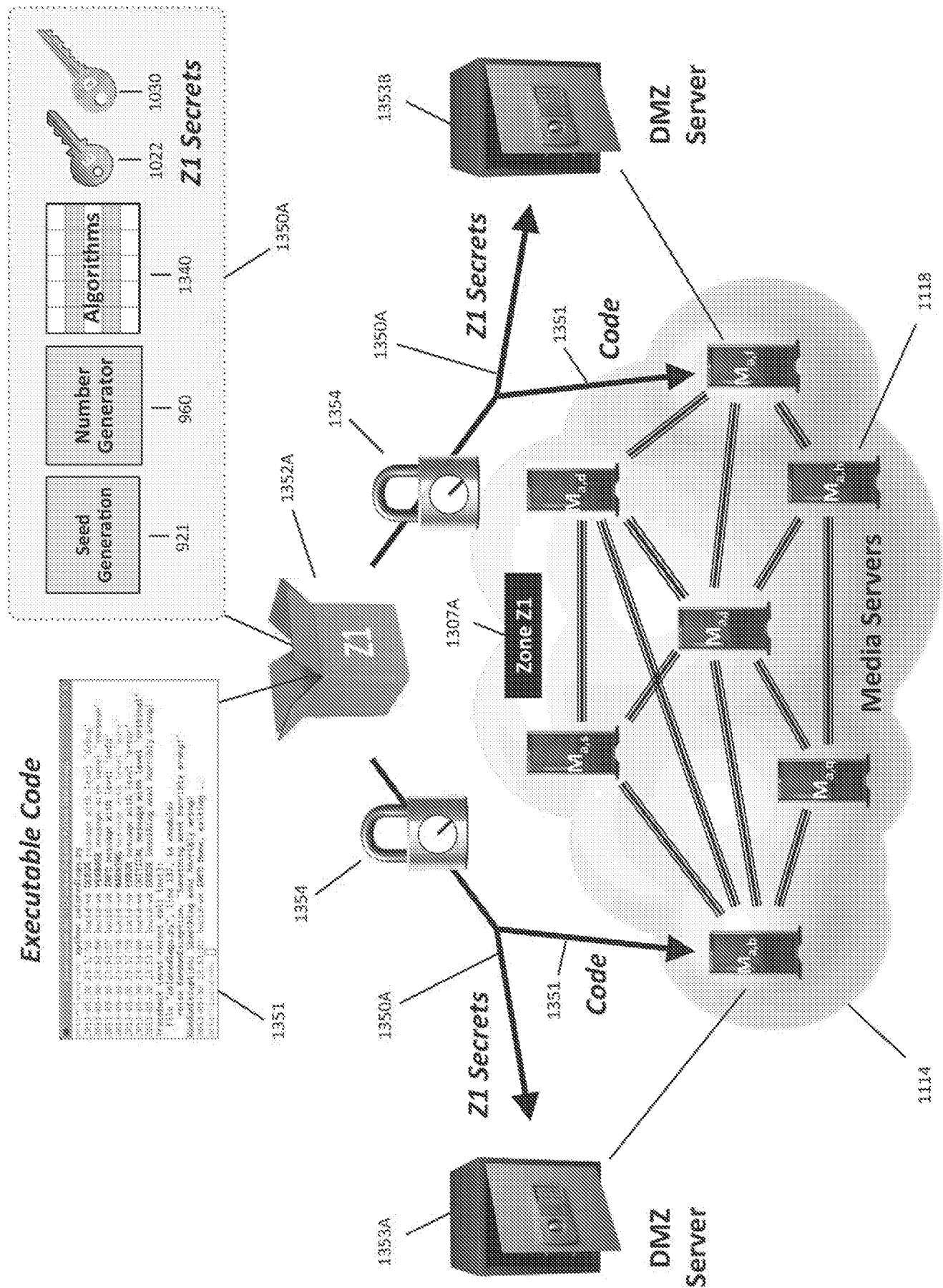


Figure 100A

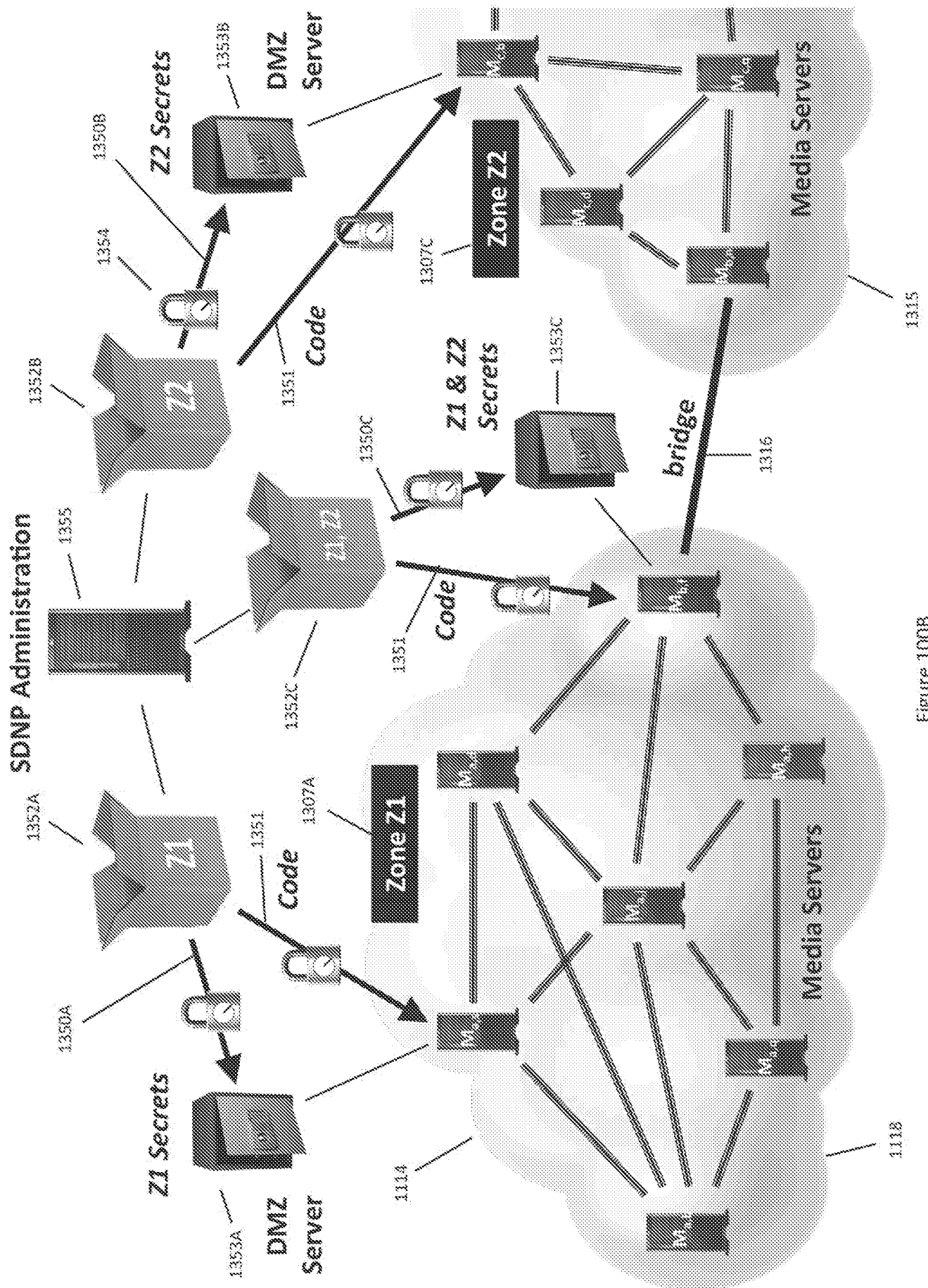


Figure 1008

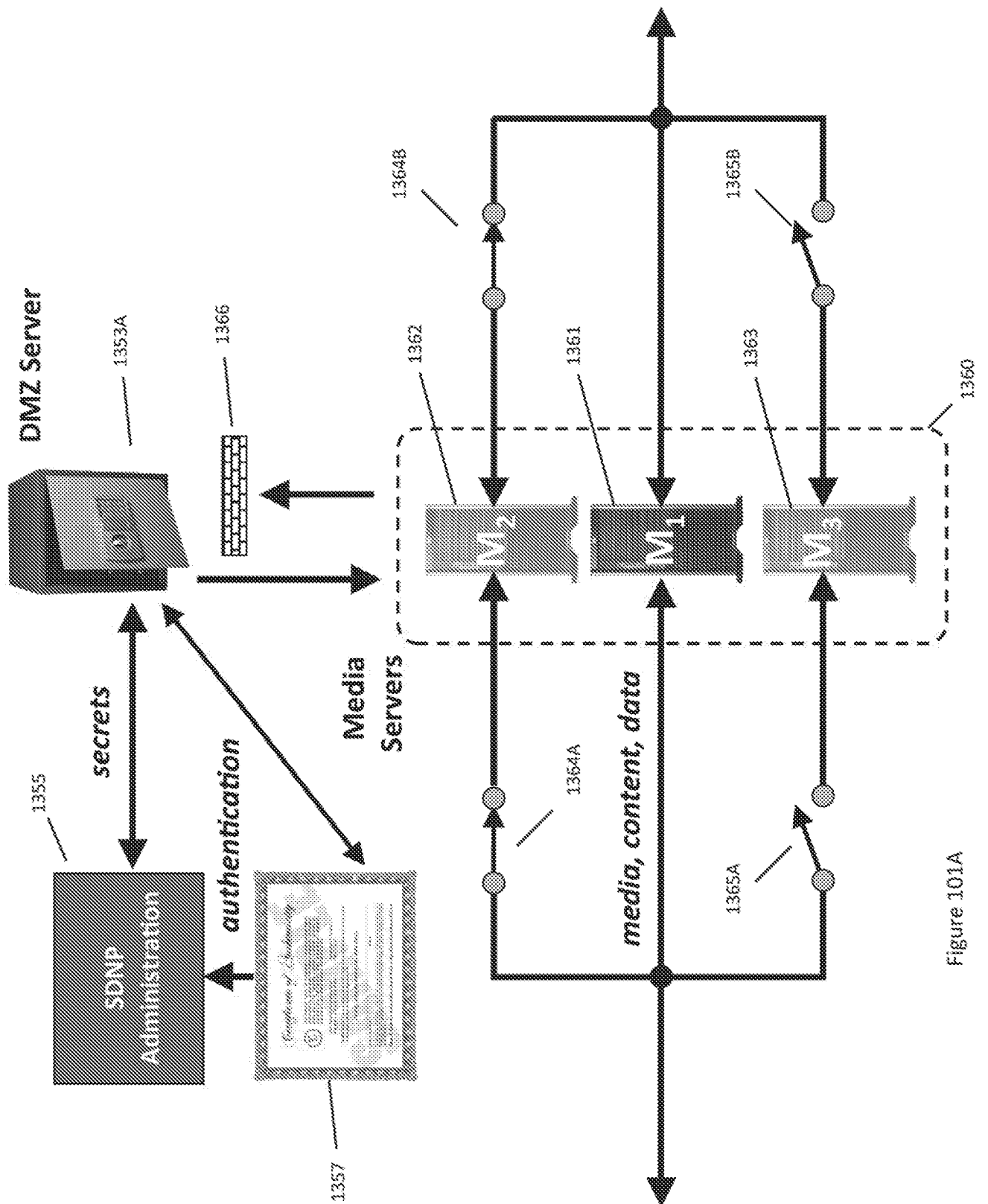


Figure 101A

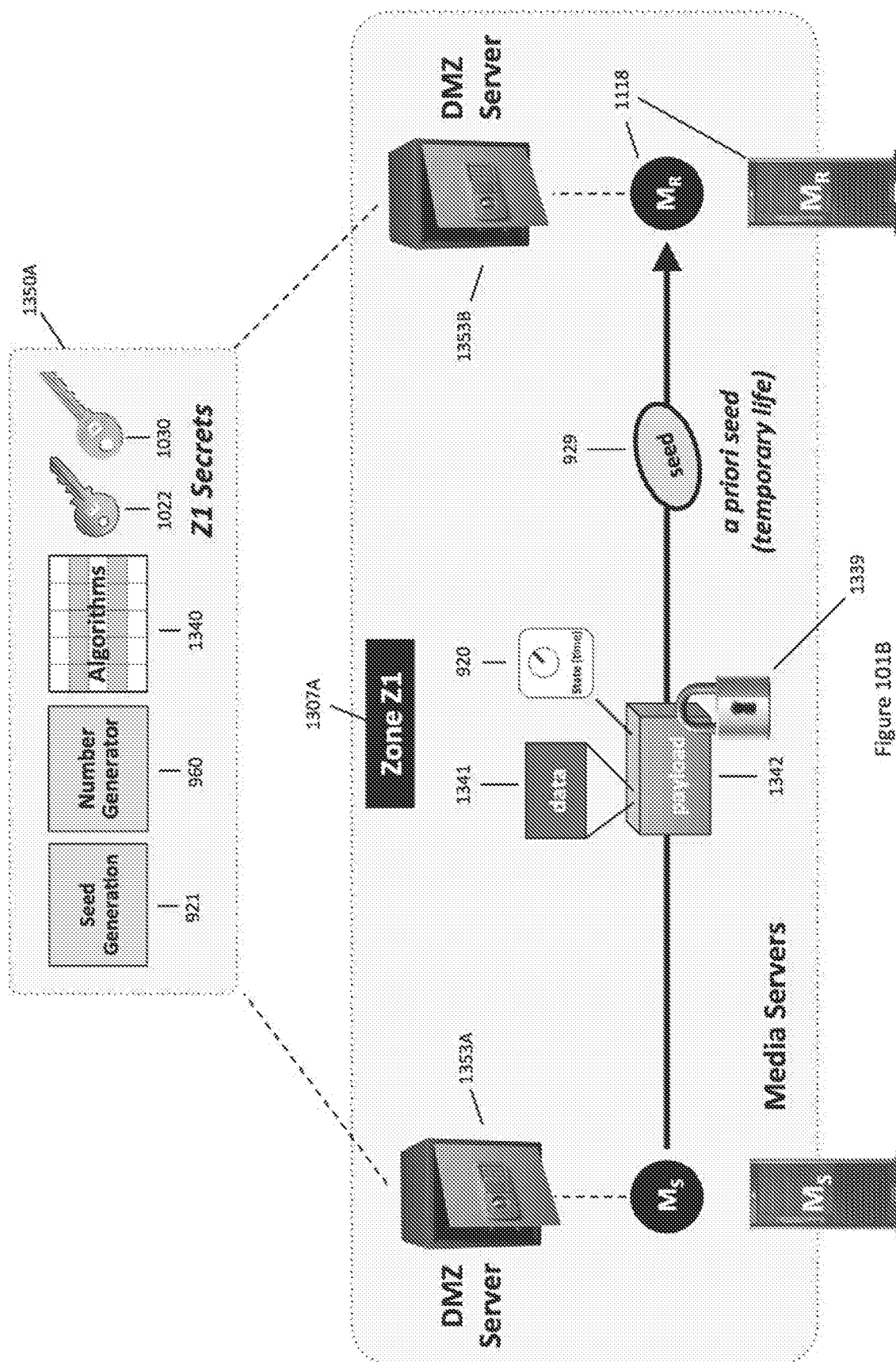


Figure 1018

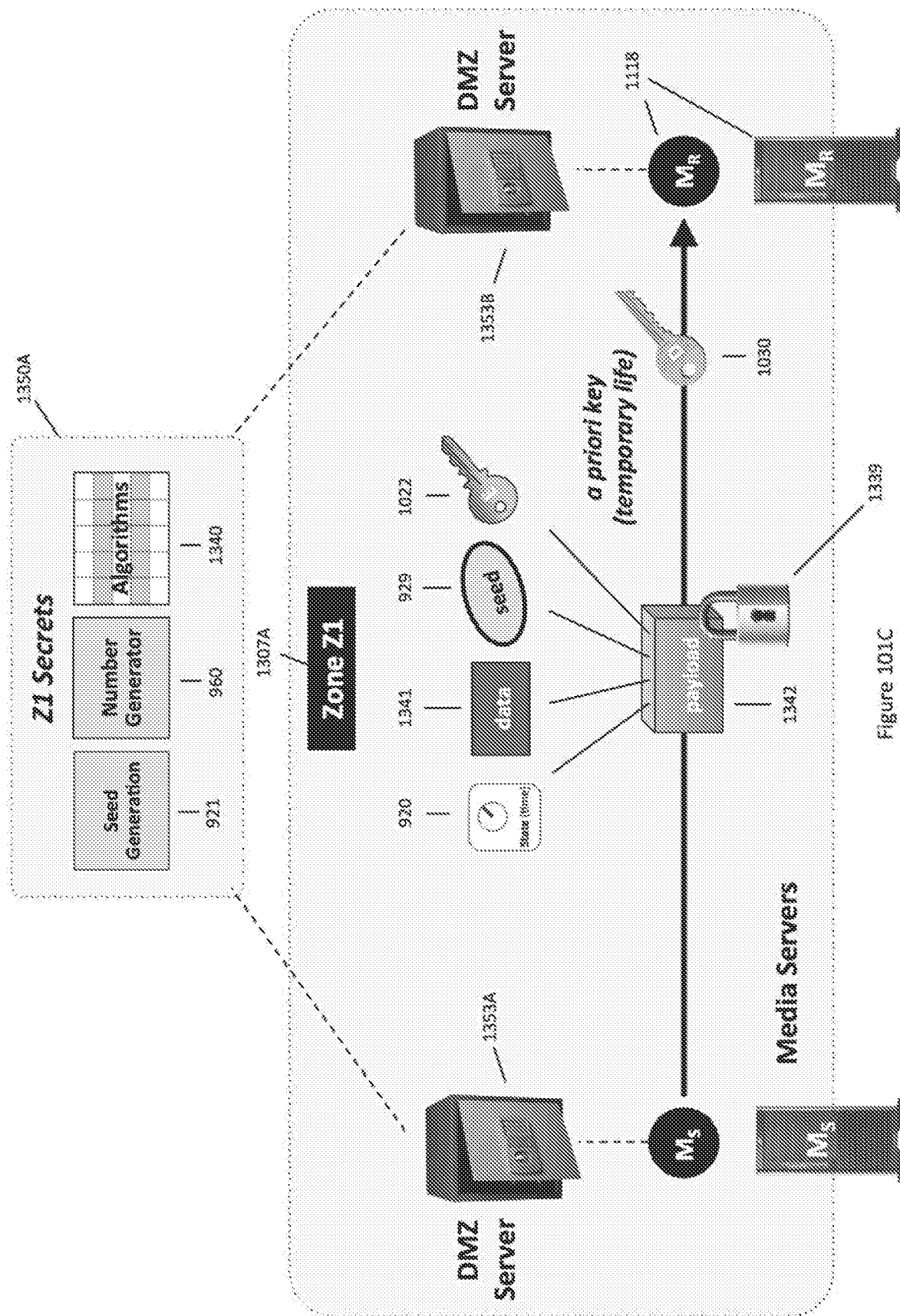


Figure 101C

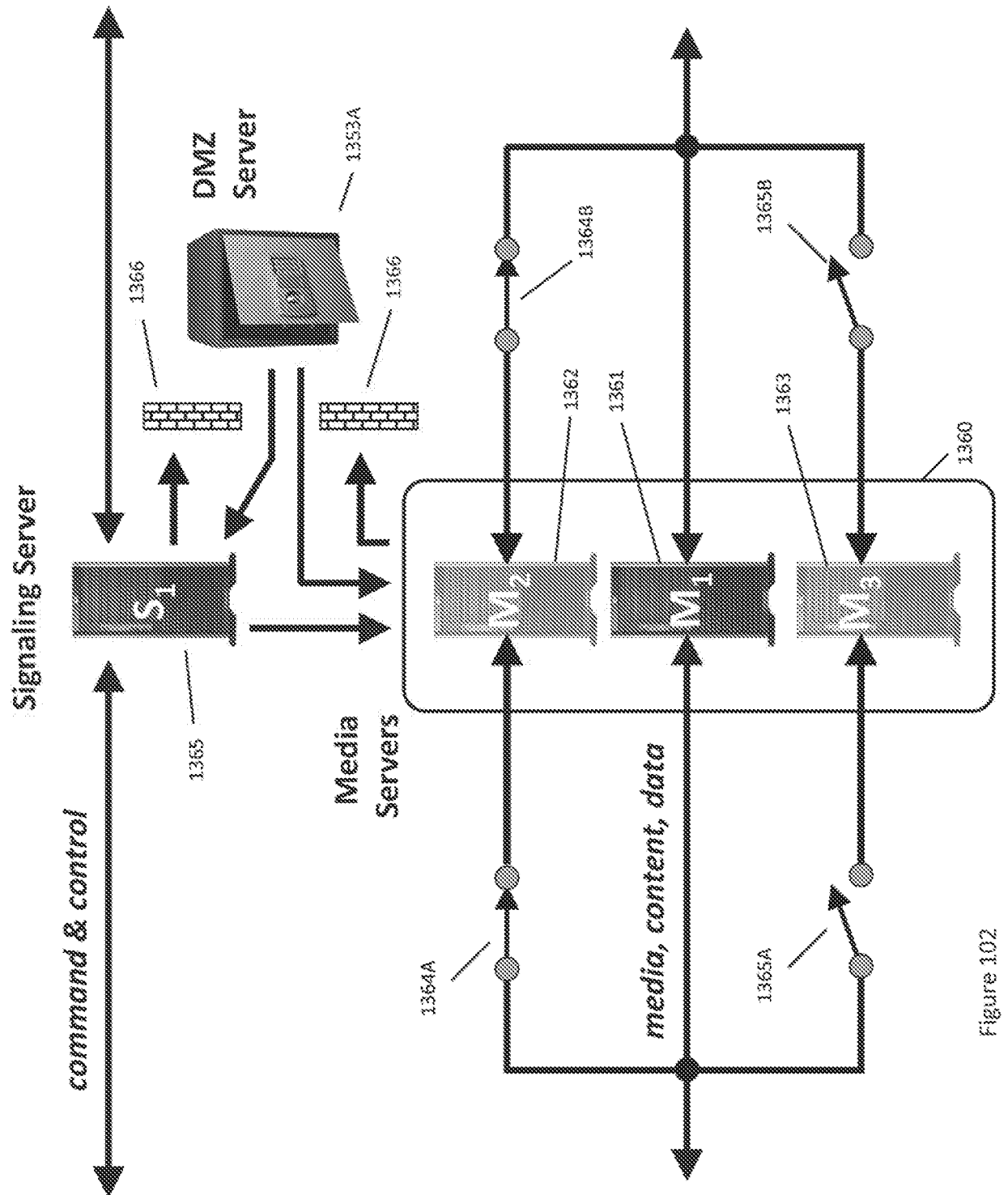


Figure 102

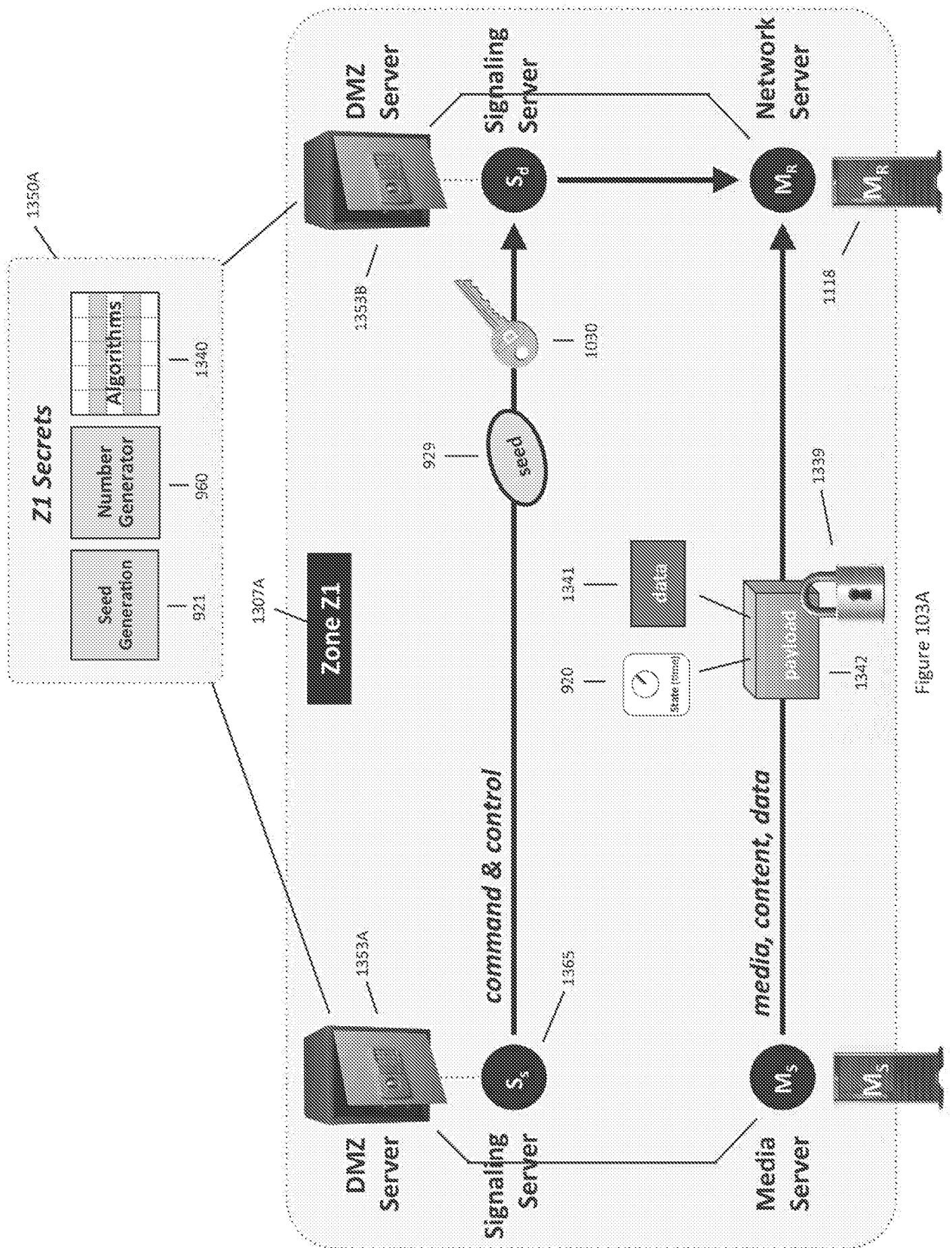


Figure 103A

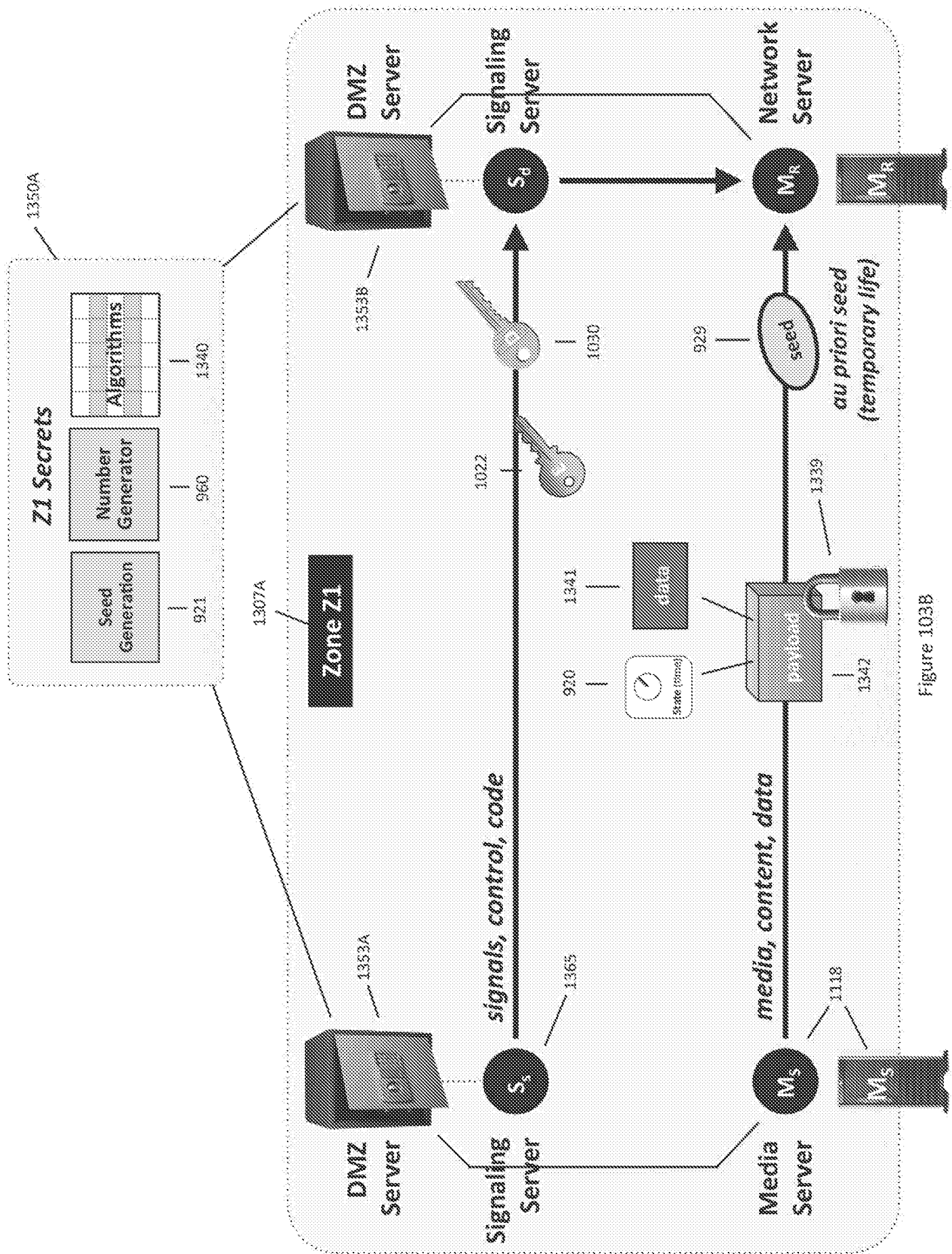


Figure 103B

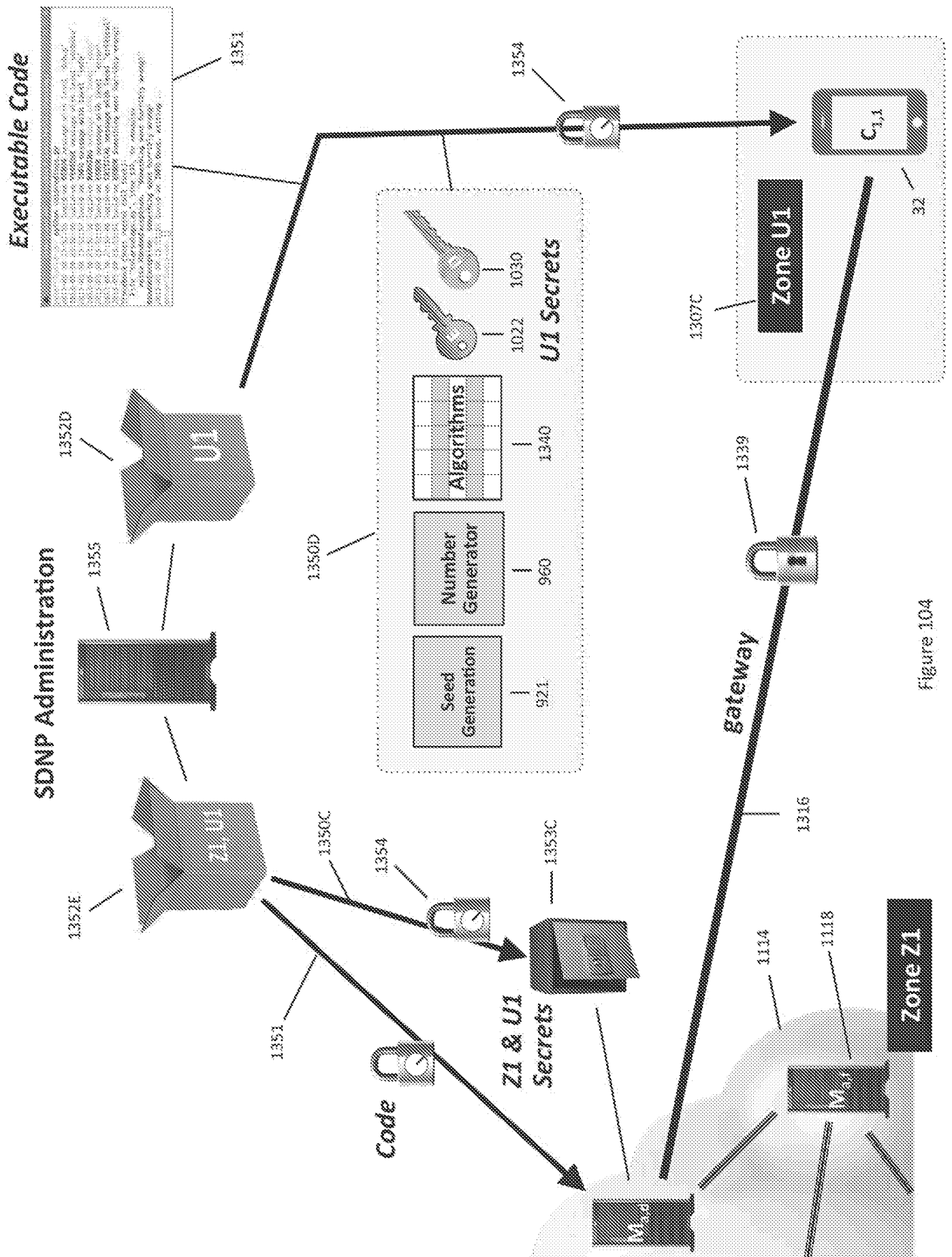


Figure 104

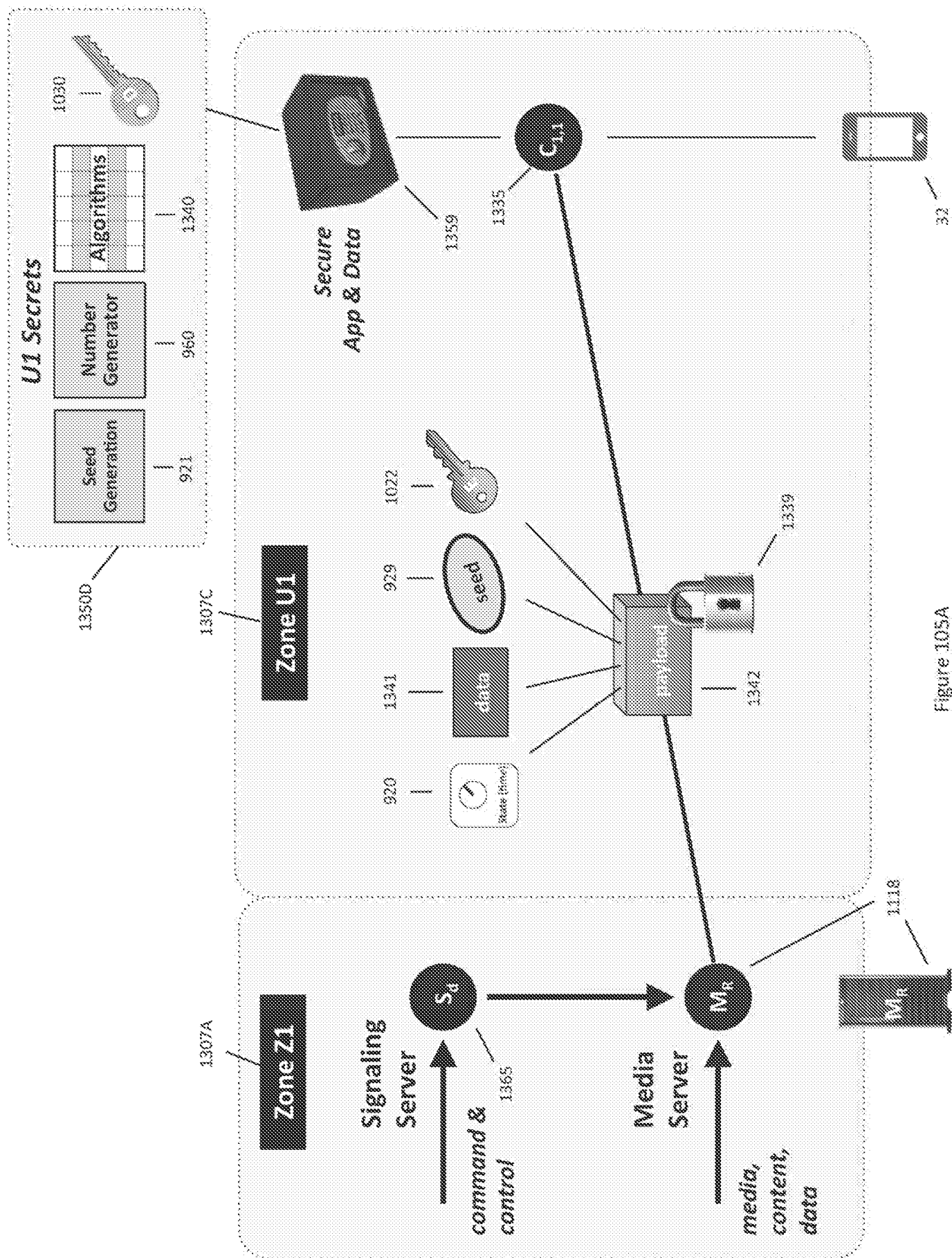


Figure 105A

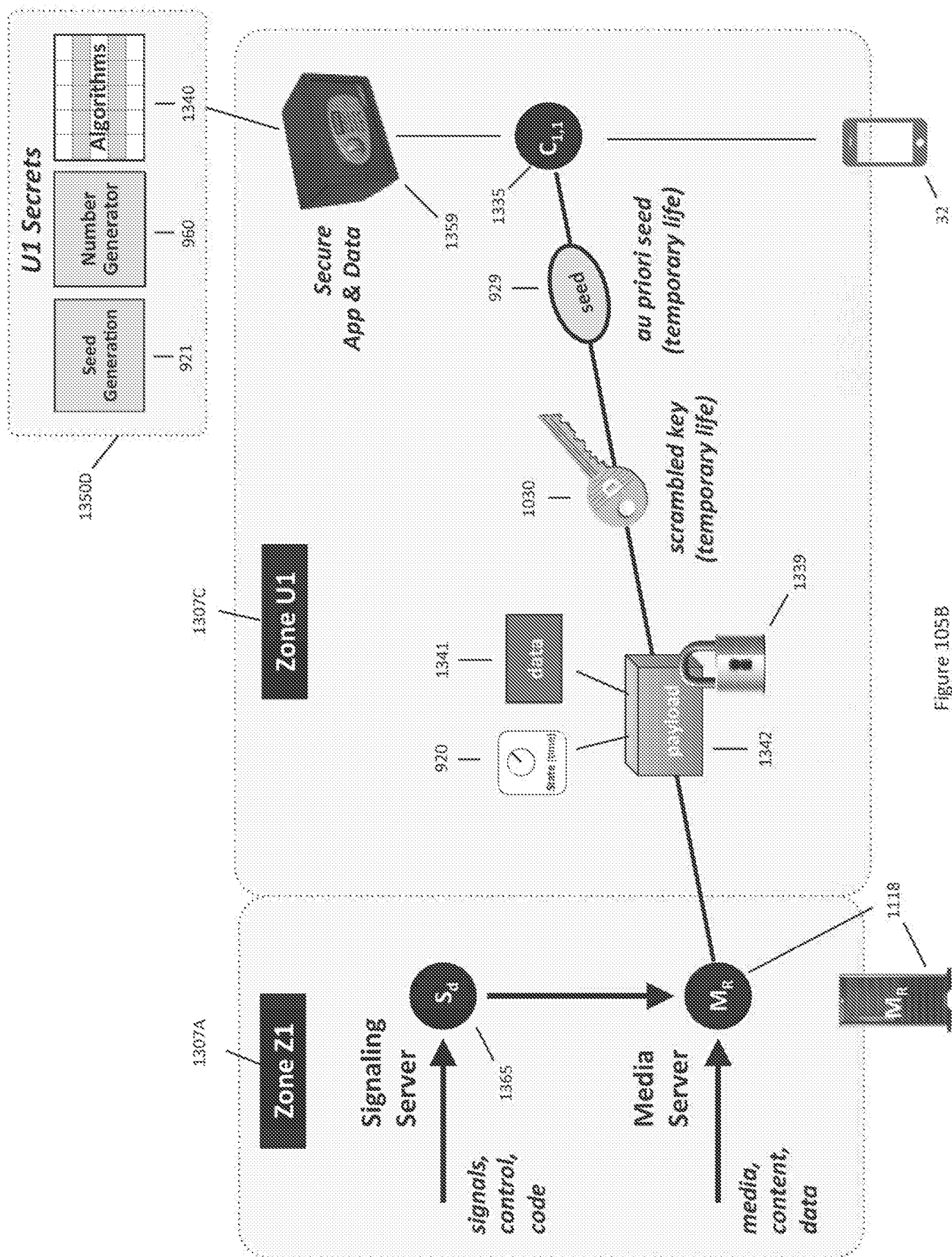


Figure 105B

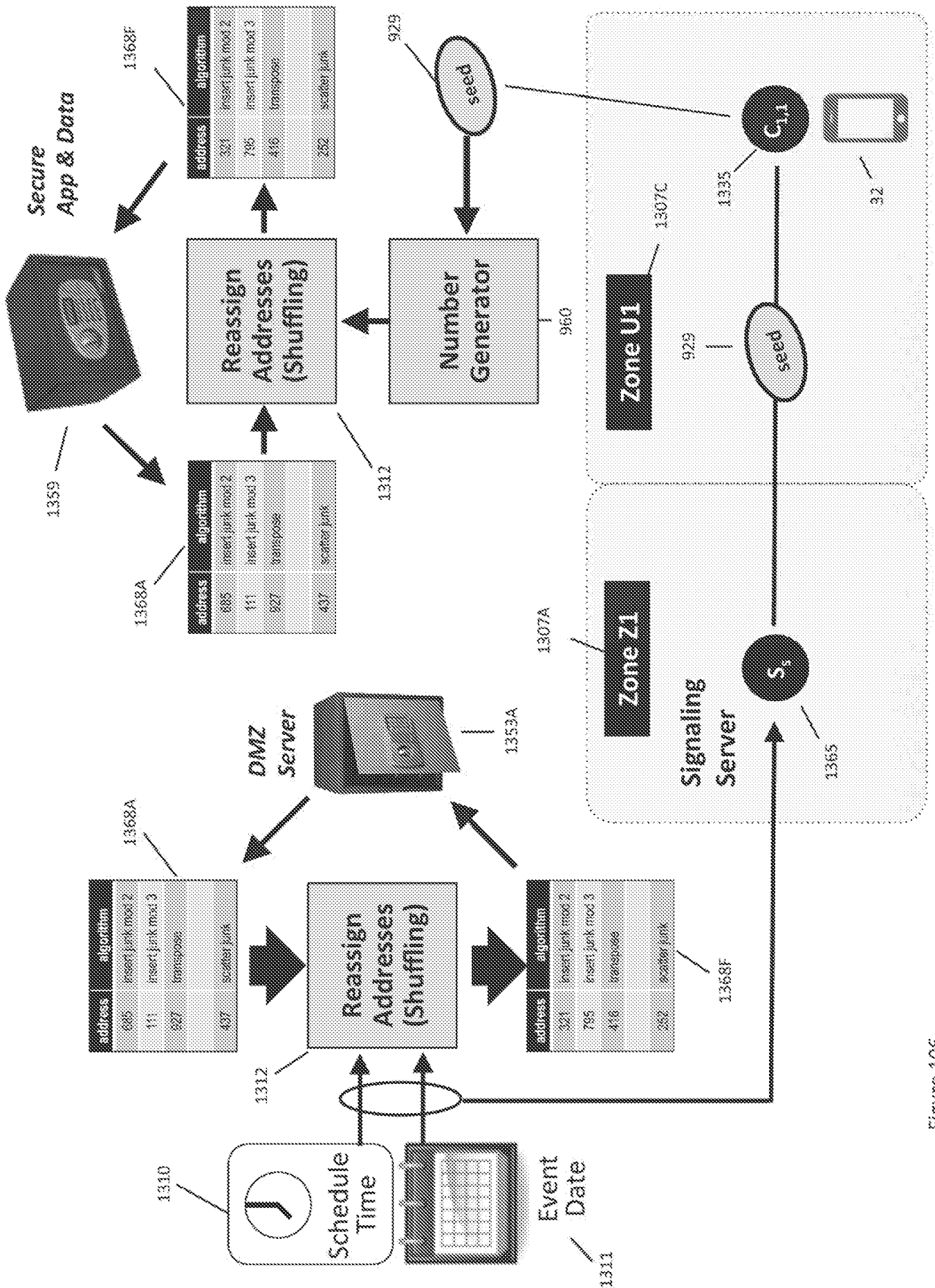


Figure 106

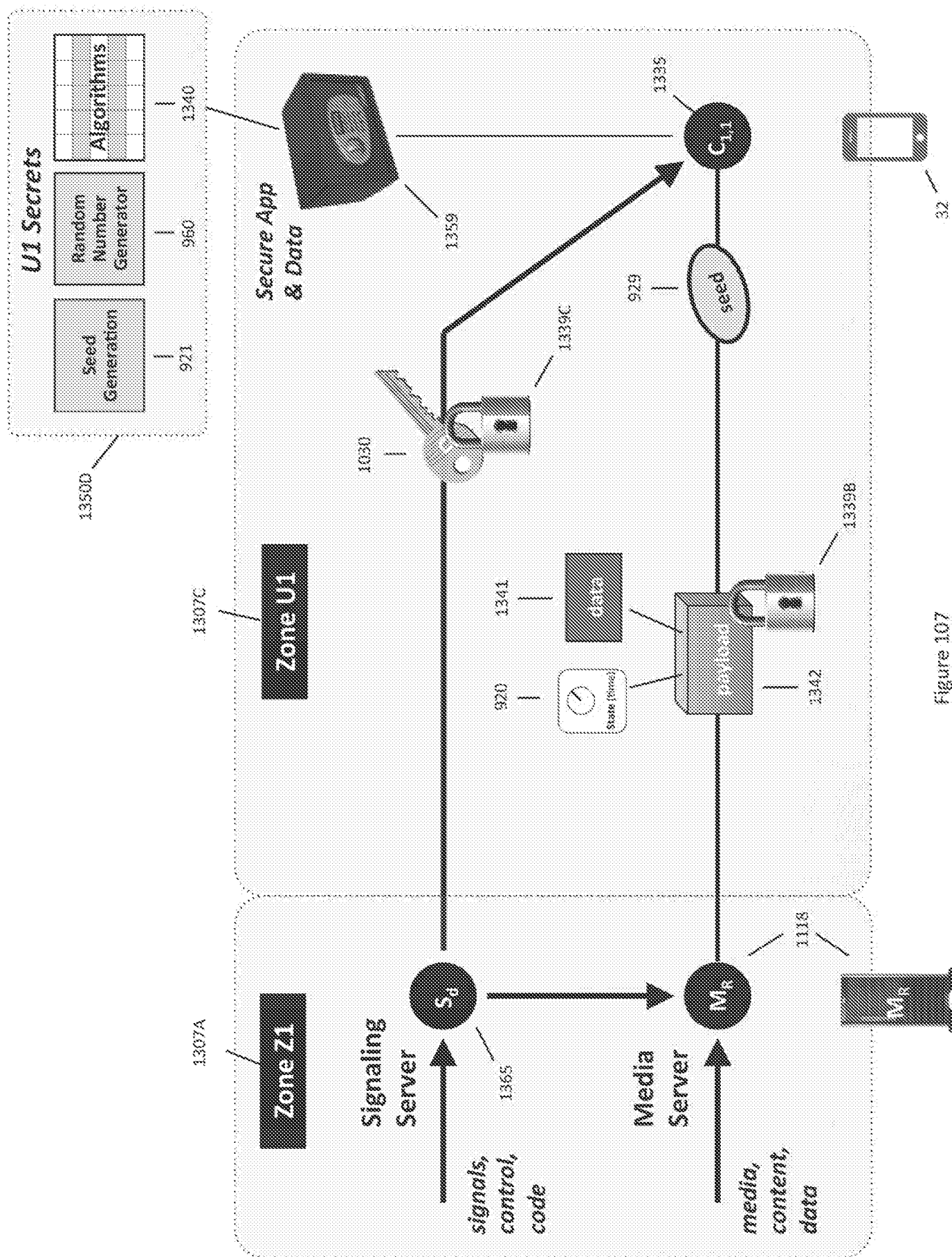


Figure 107

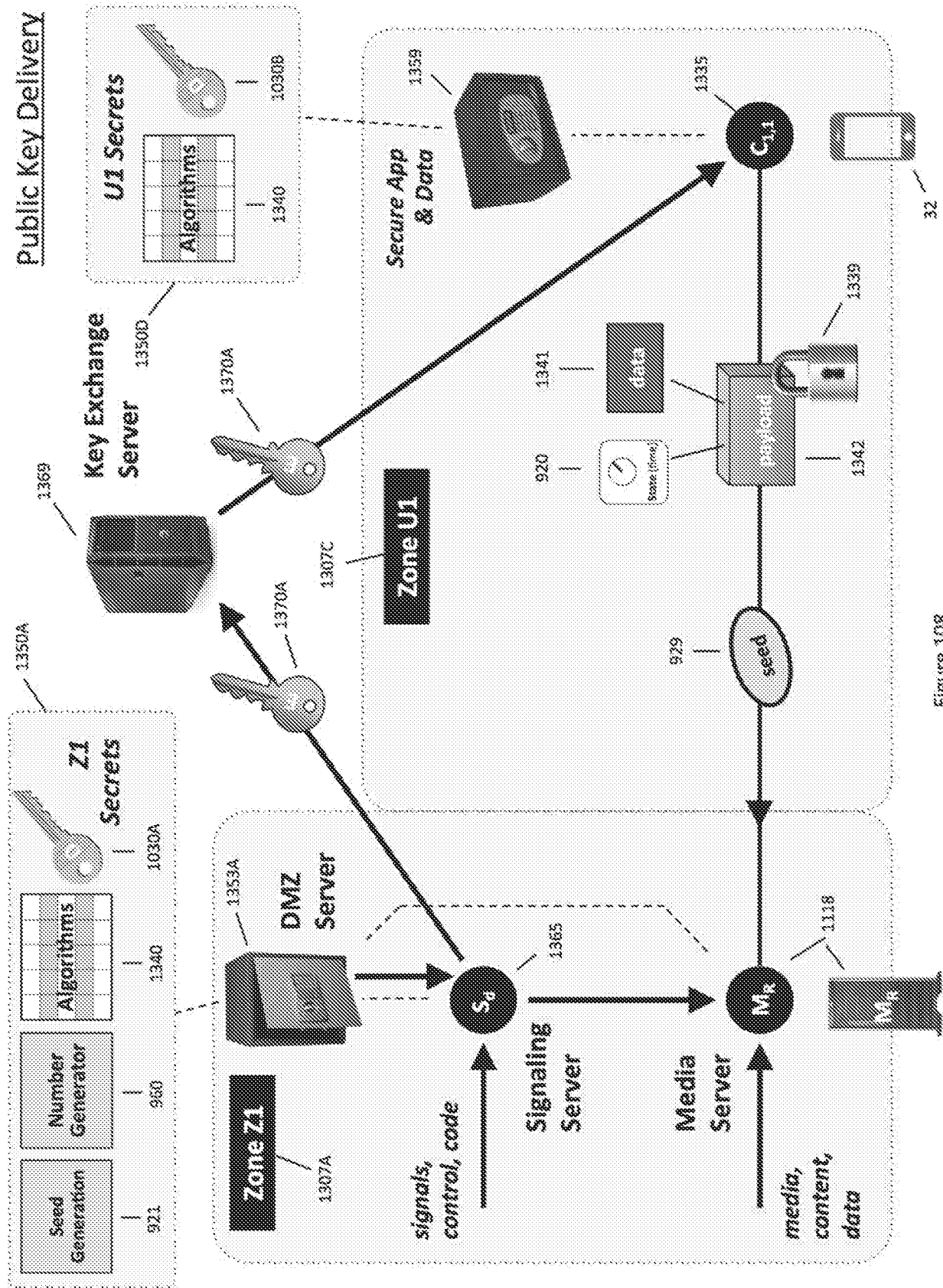
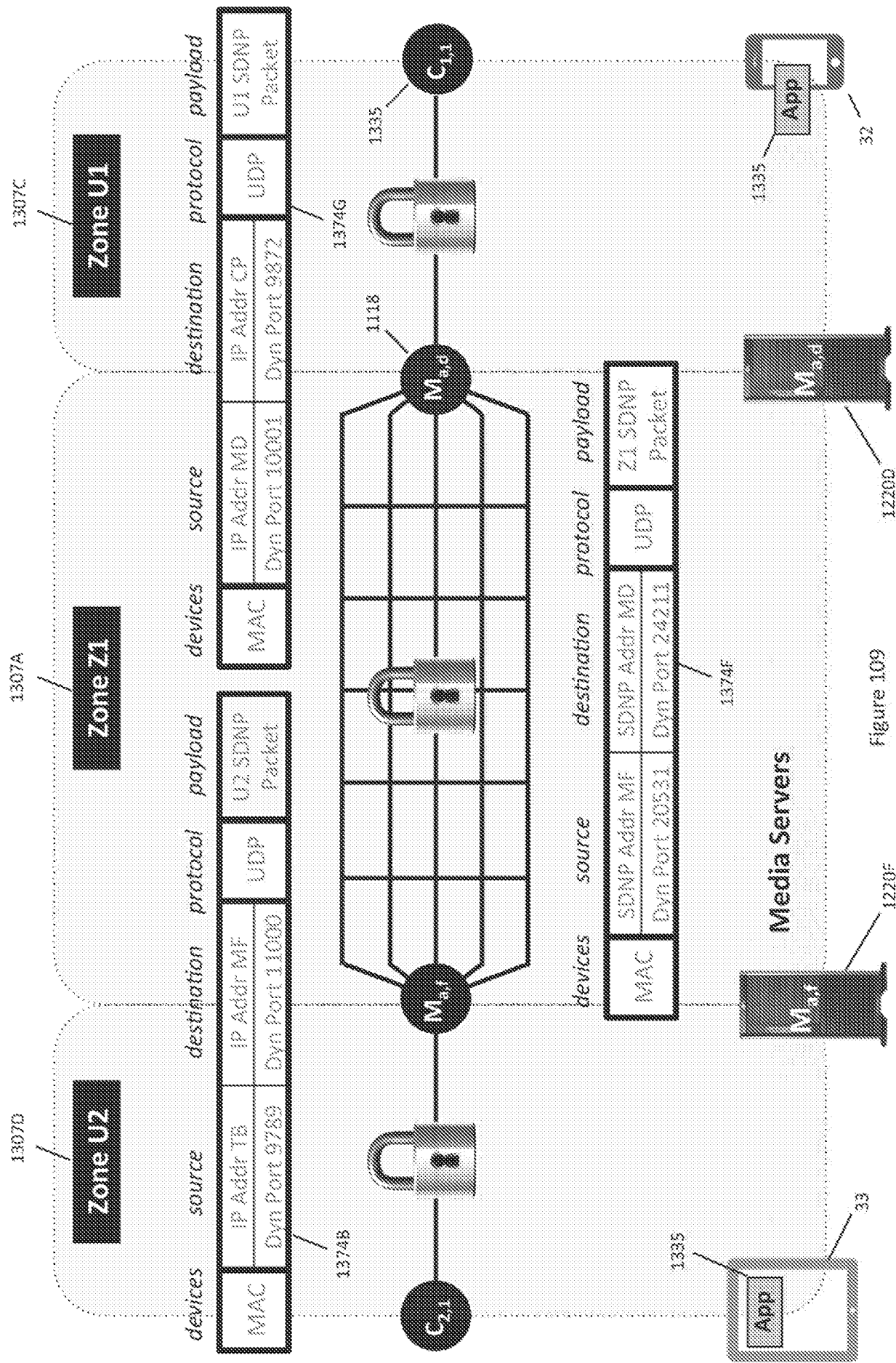


Figure 108



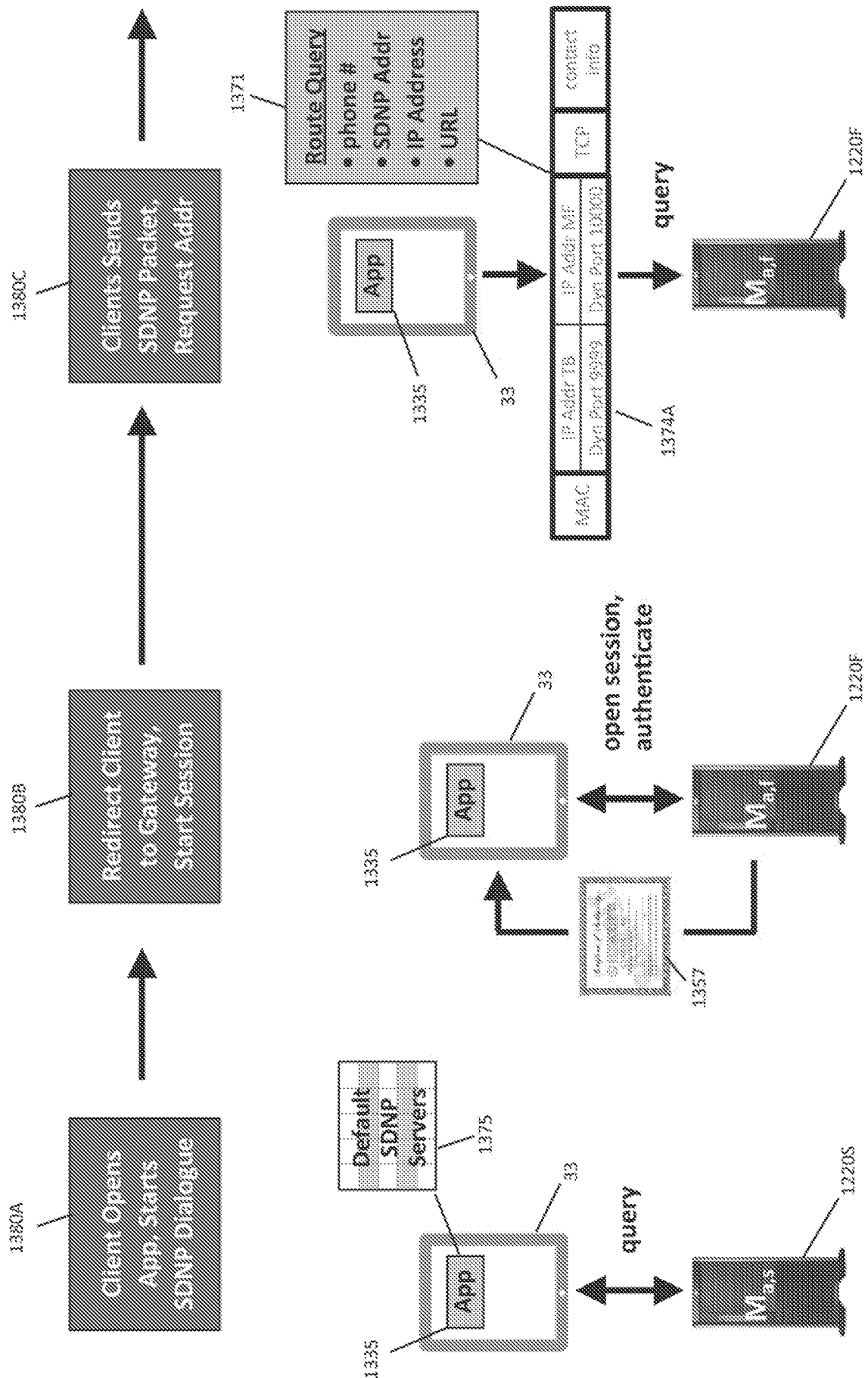


Figure 1104

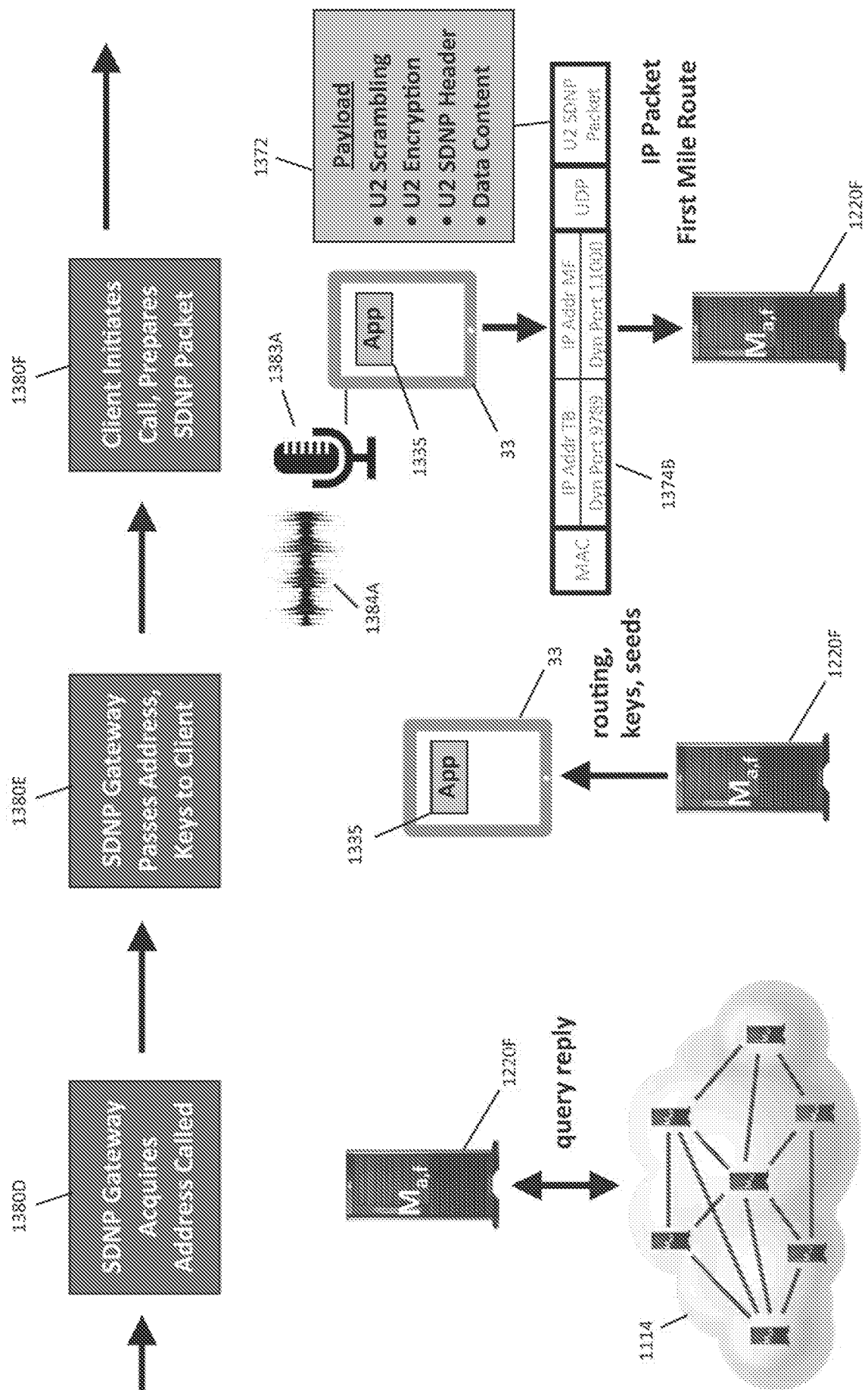


Figure 10

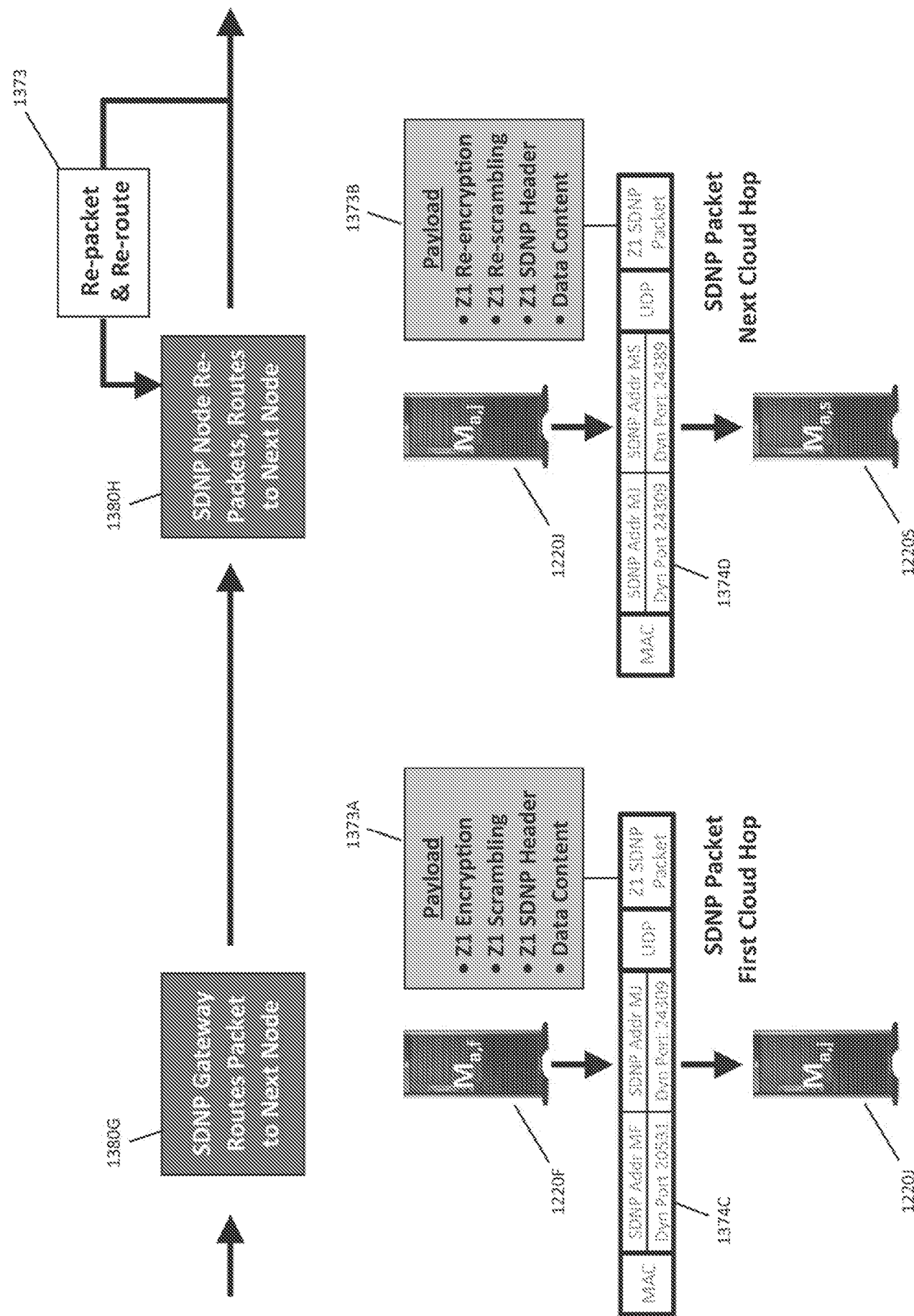


Figure 110C

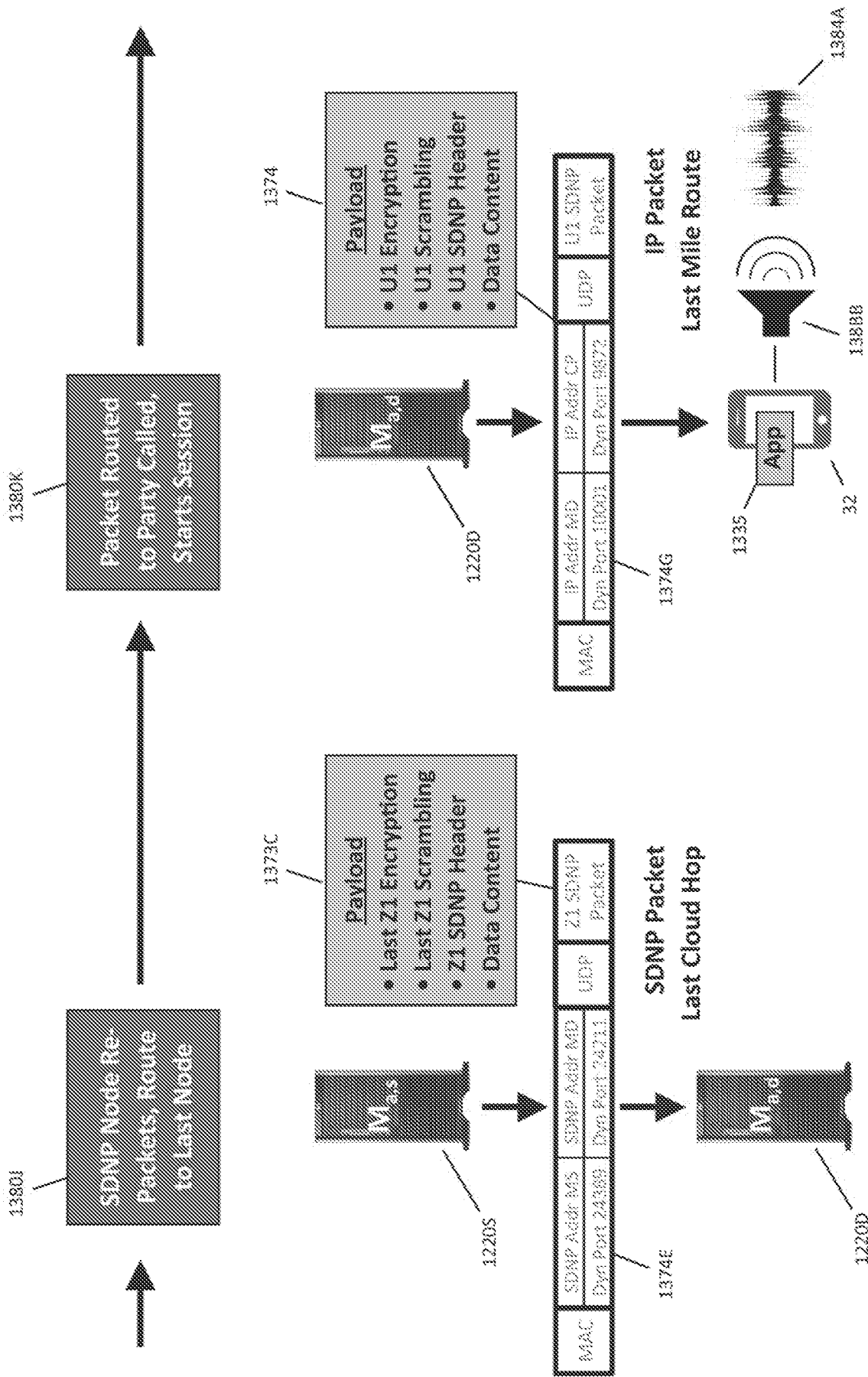


Figure 110D

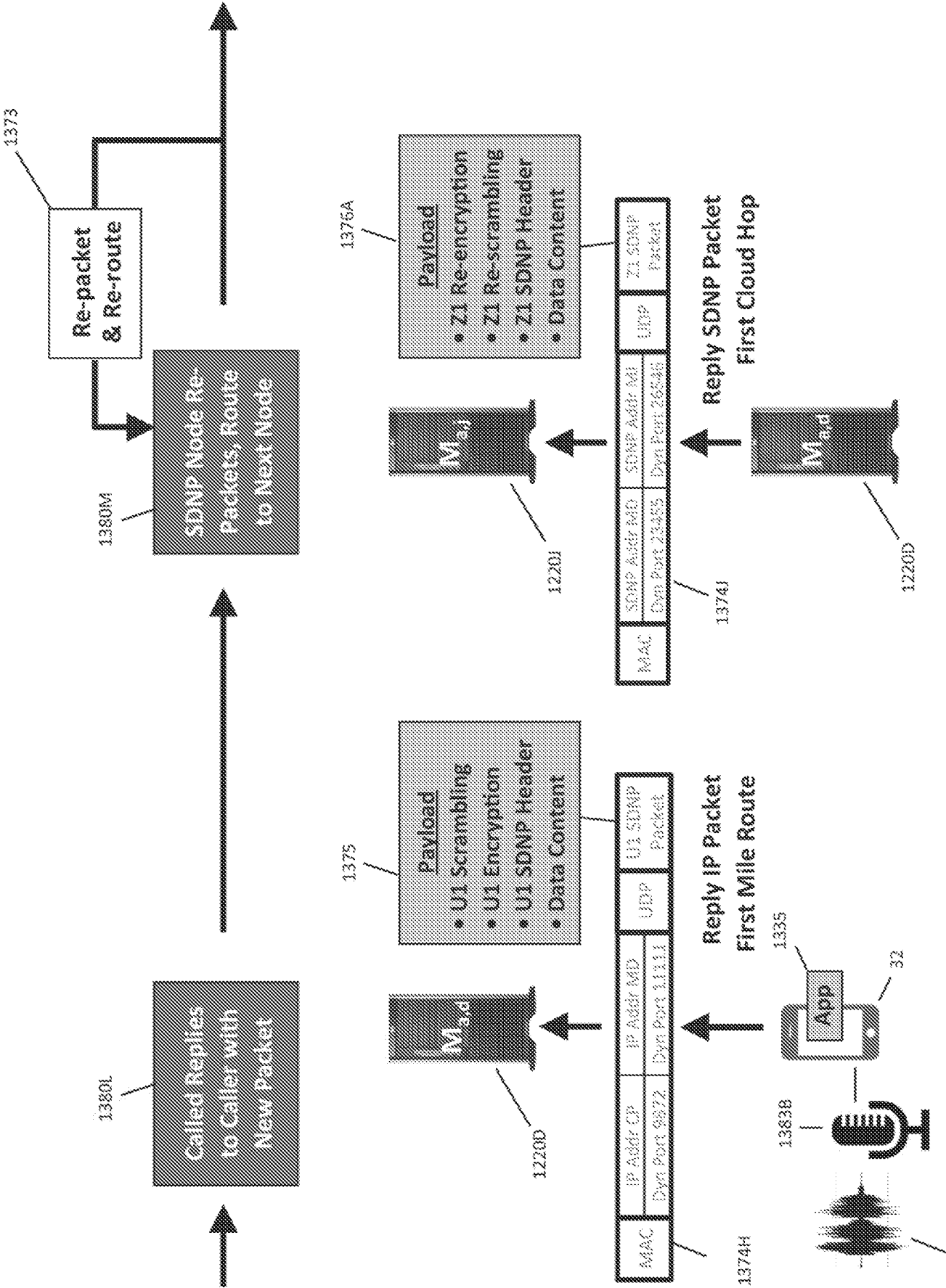


Figure 110E

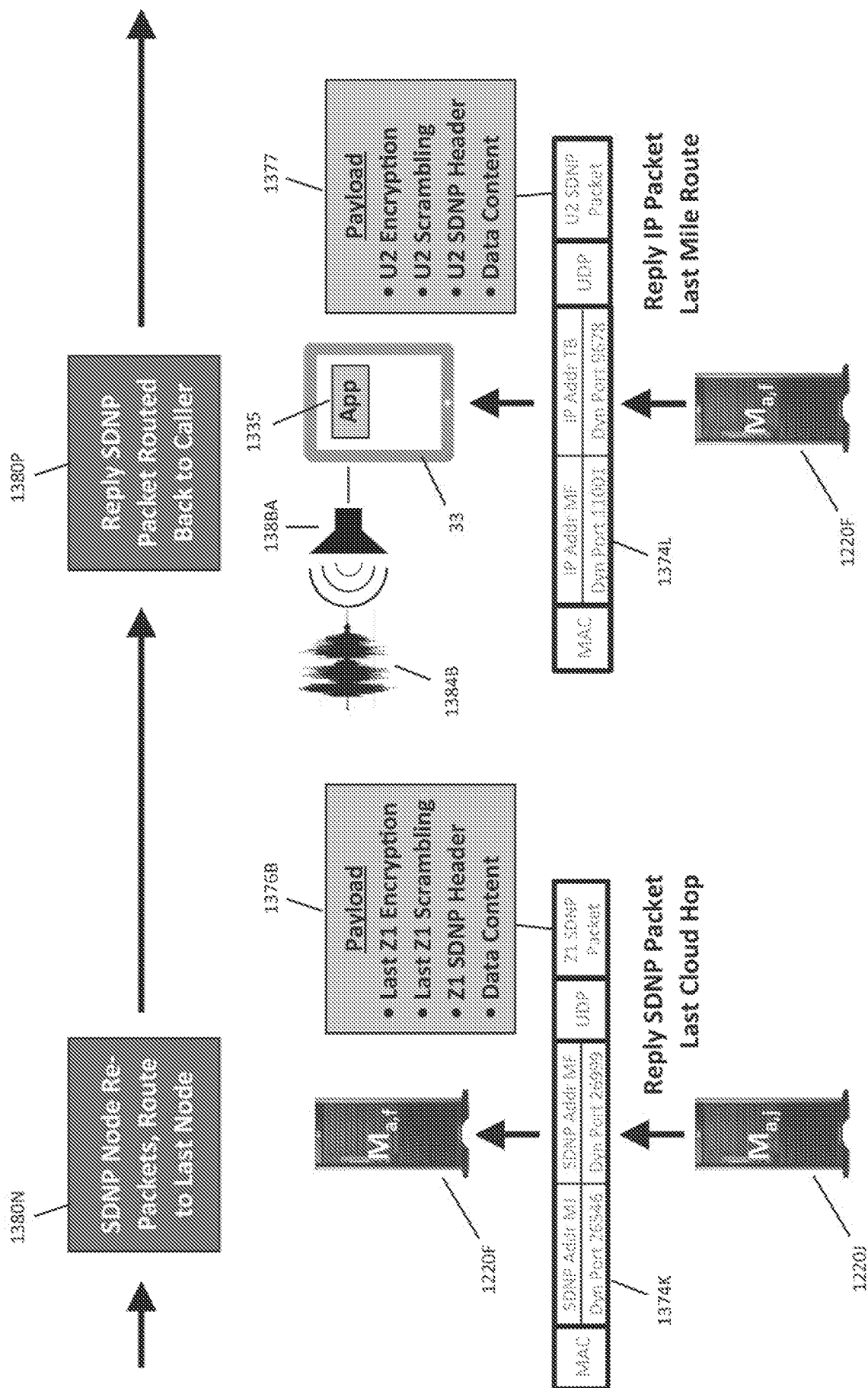


Figure 110F

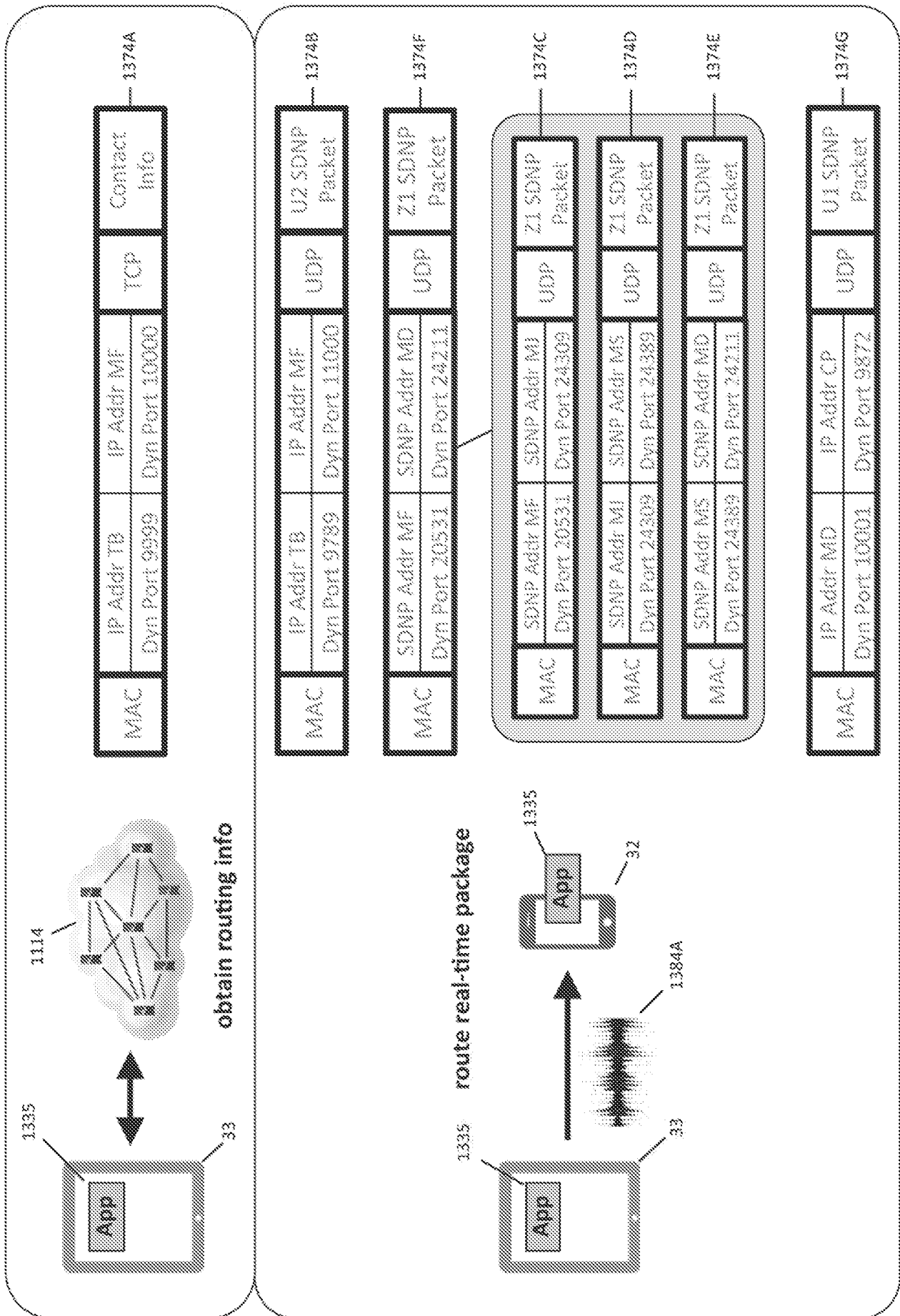


Figure 111A

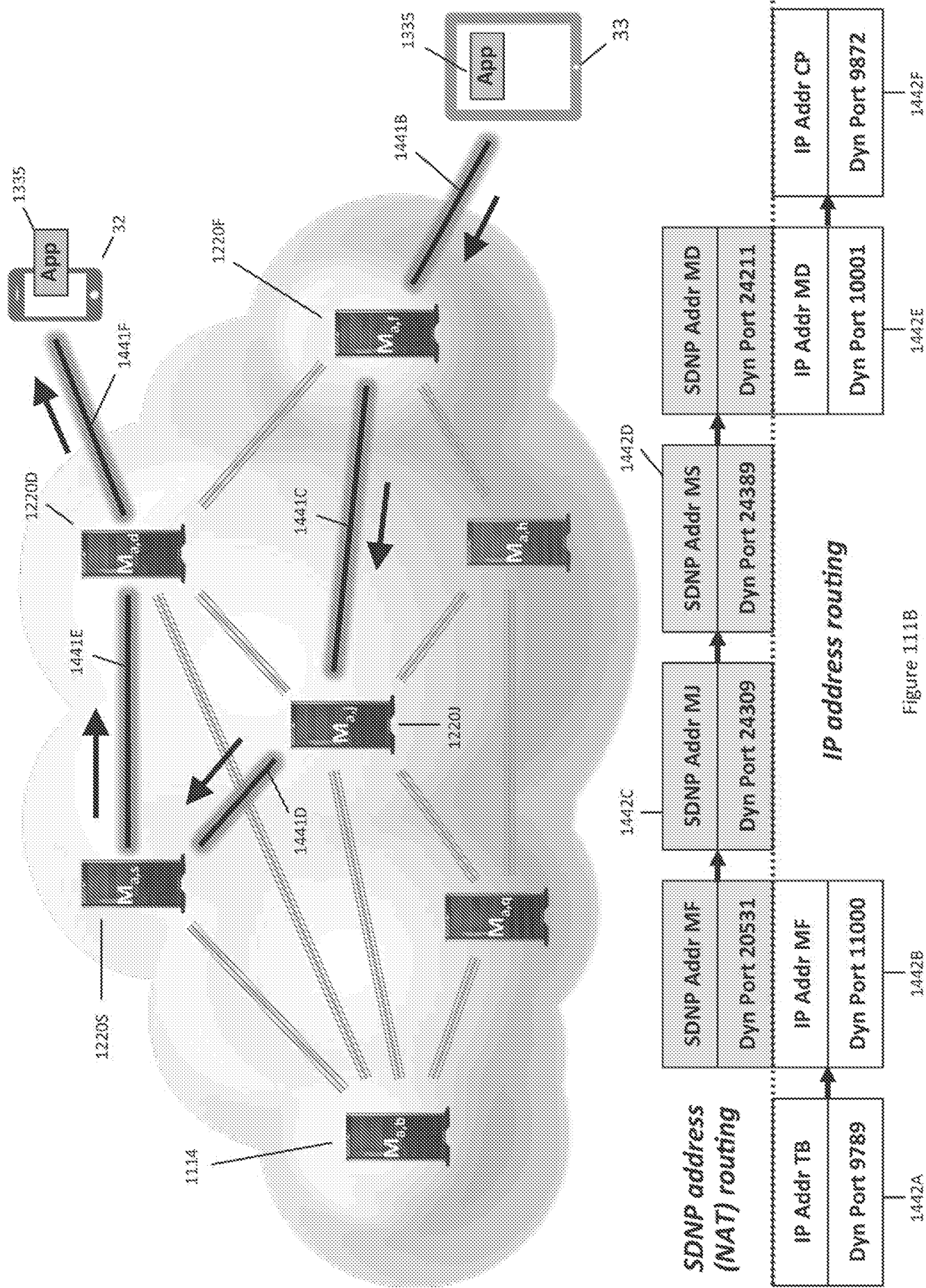


Figure 111B

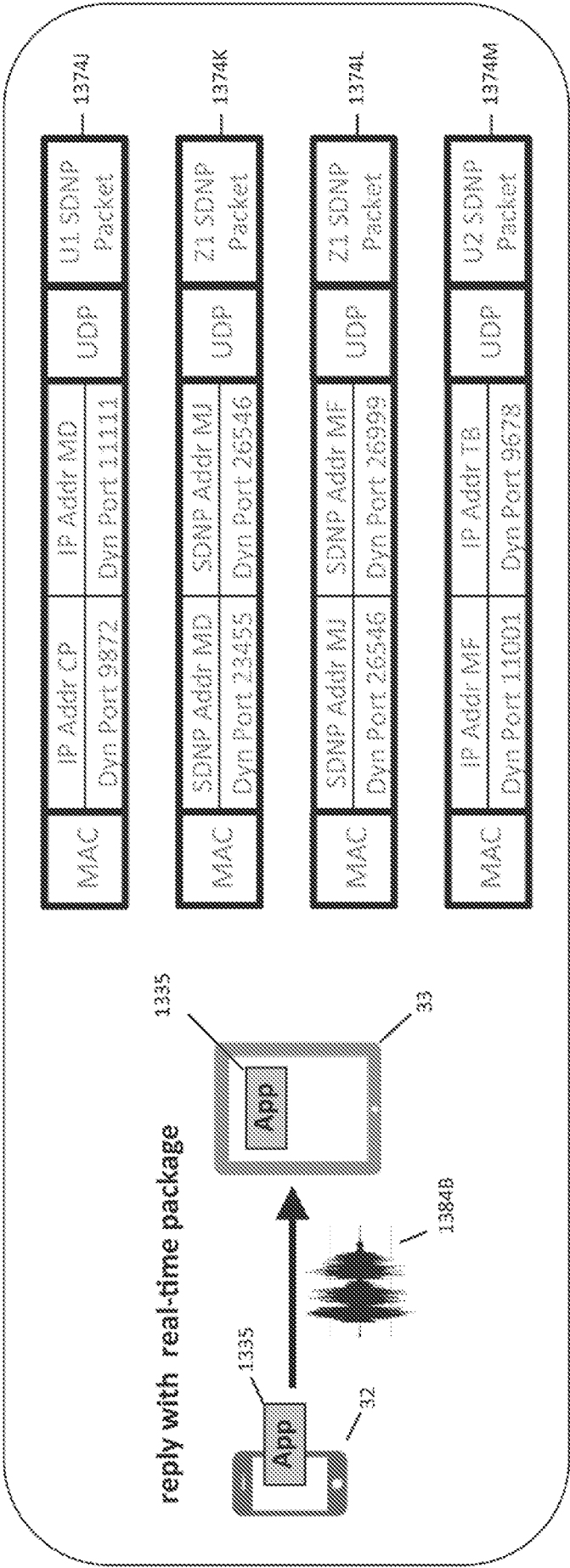


Figure 112A

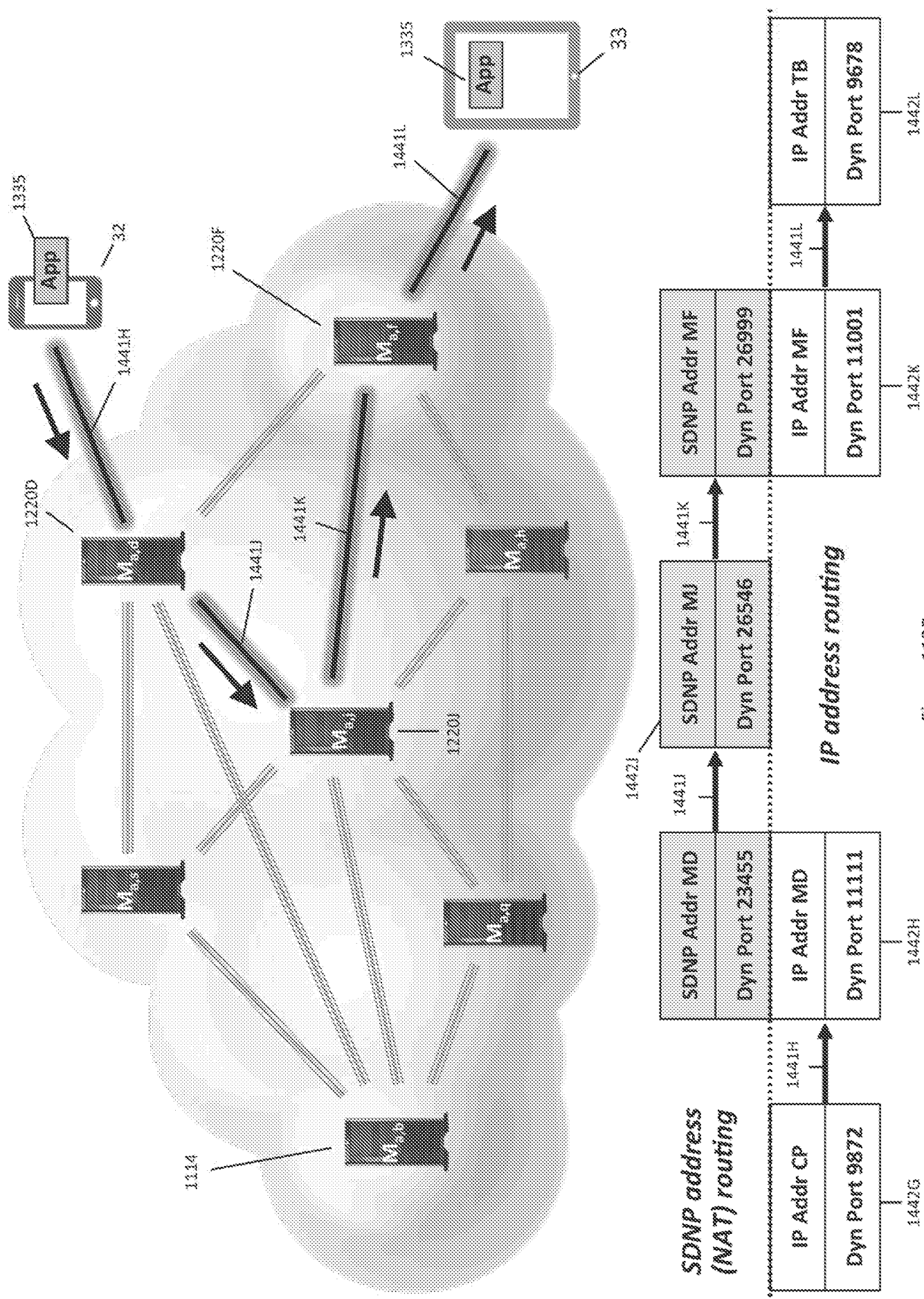


Figure 112B

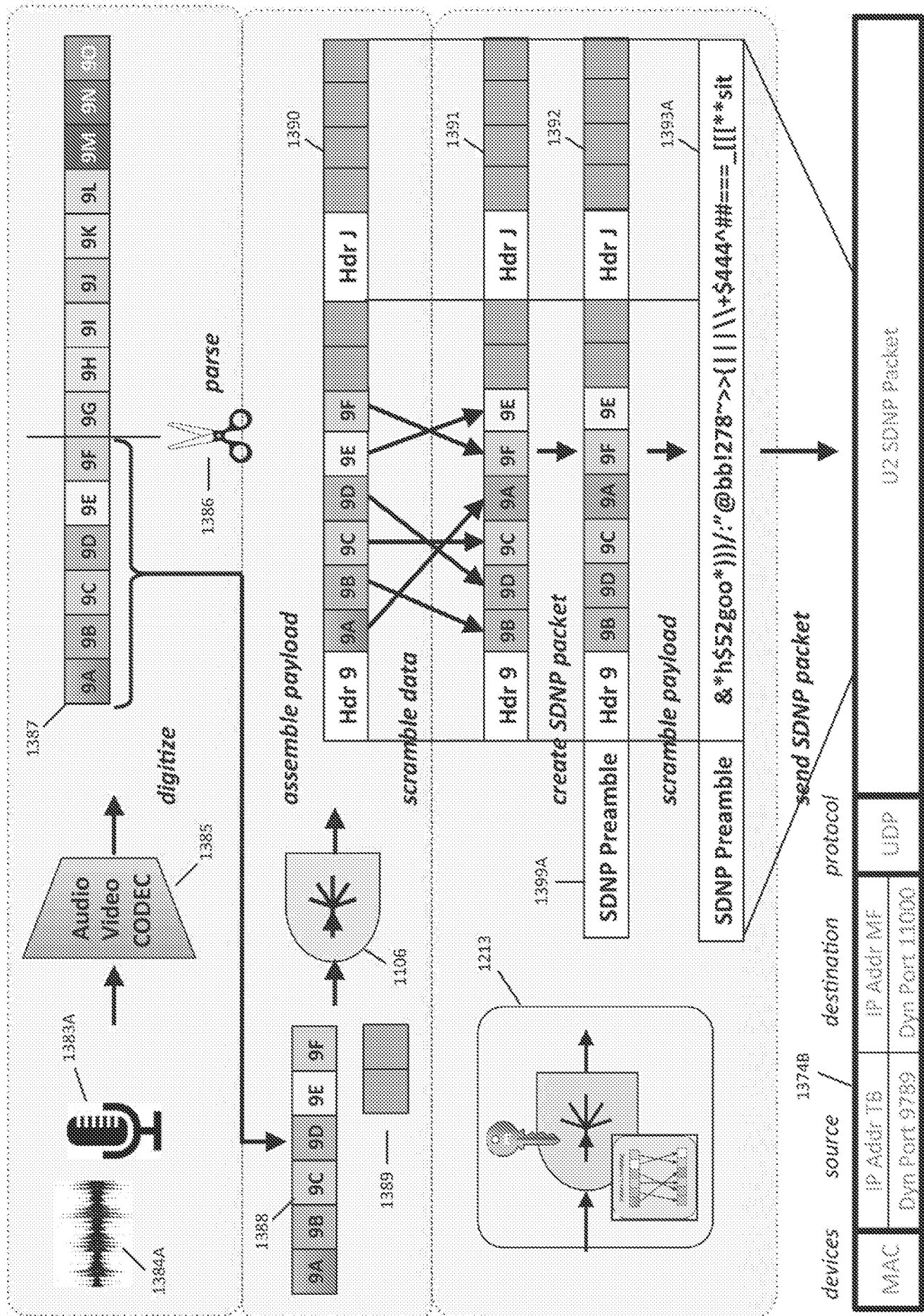
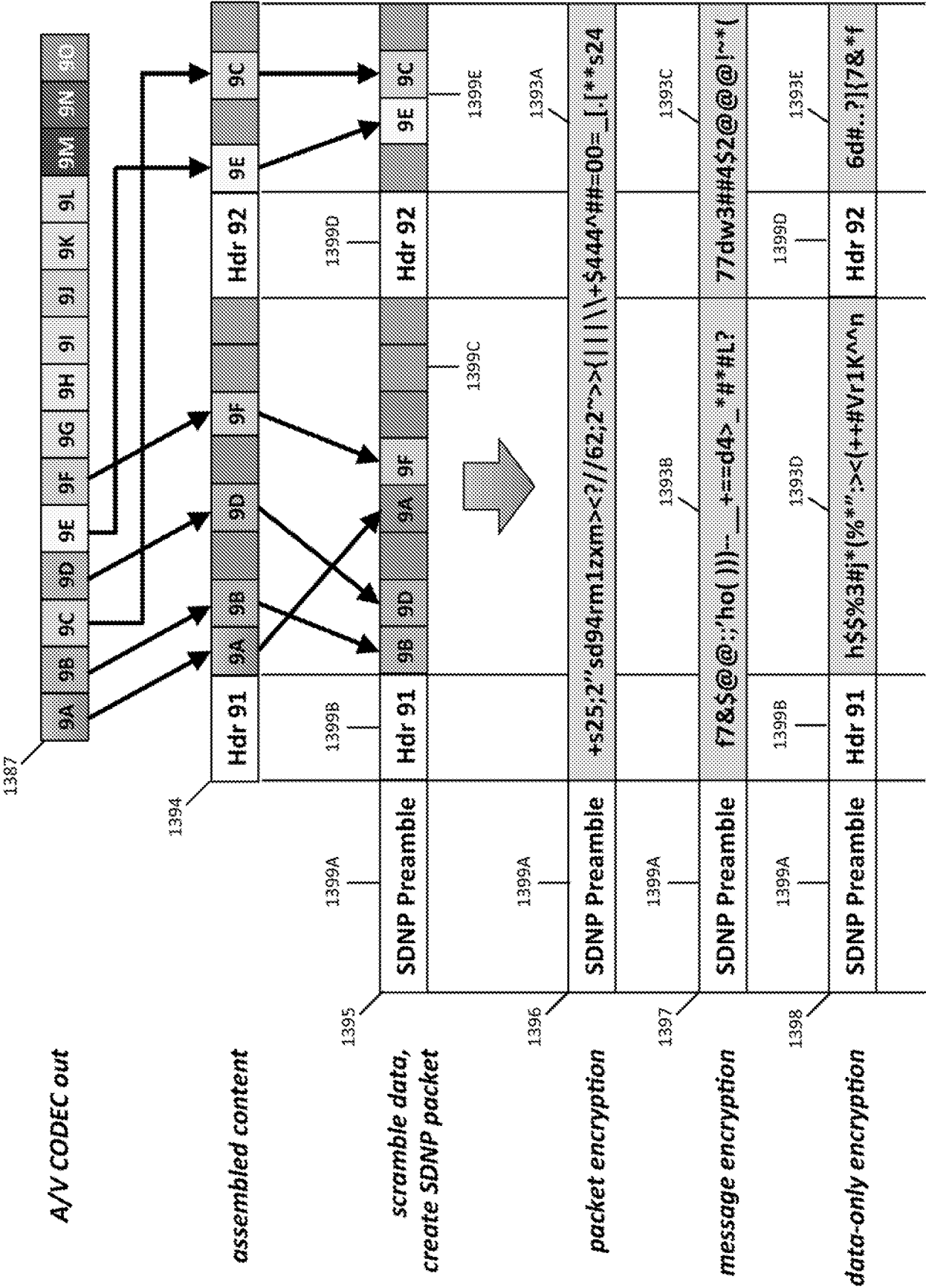


Figure 113A



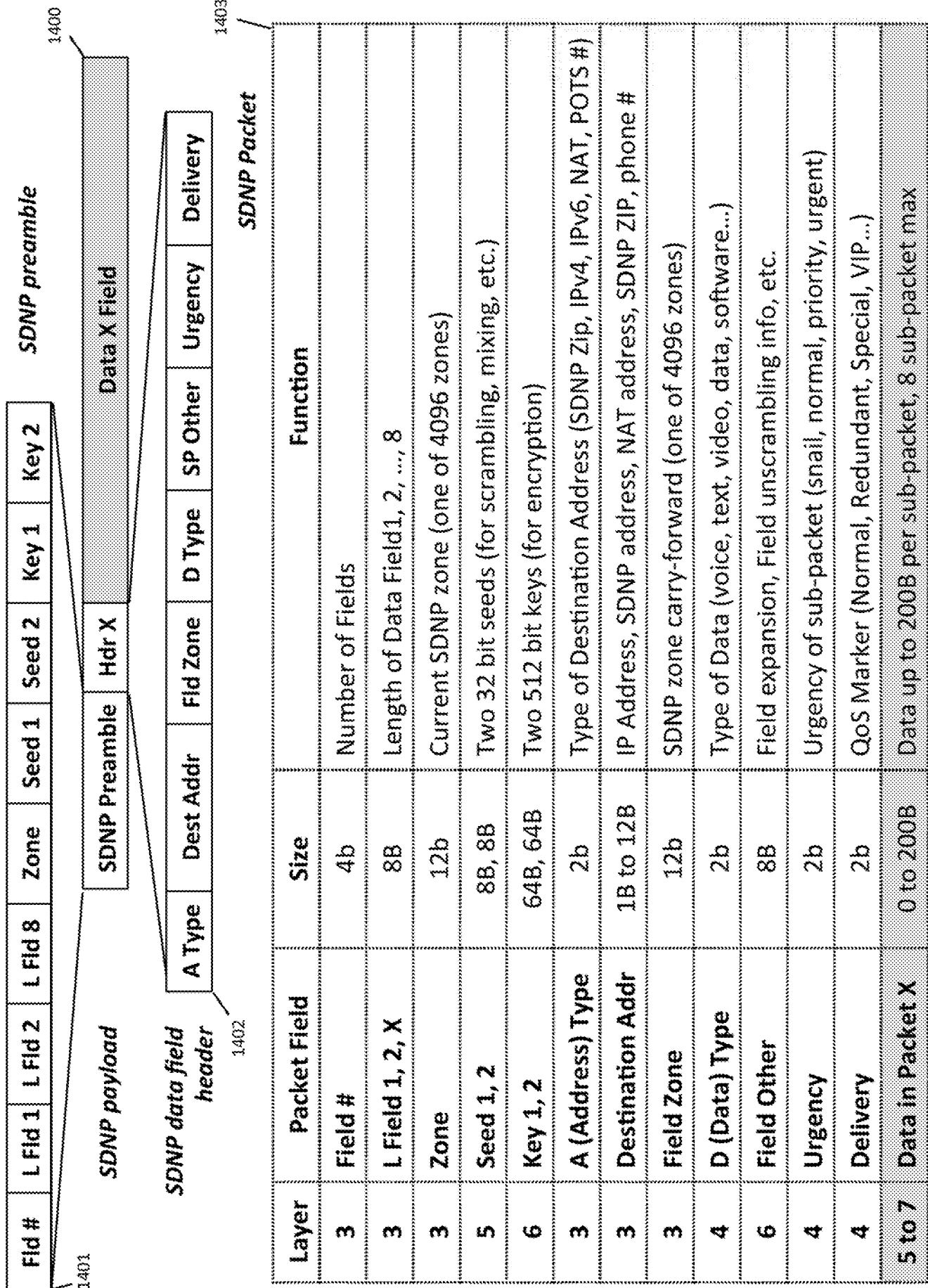


Figure 114

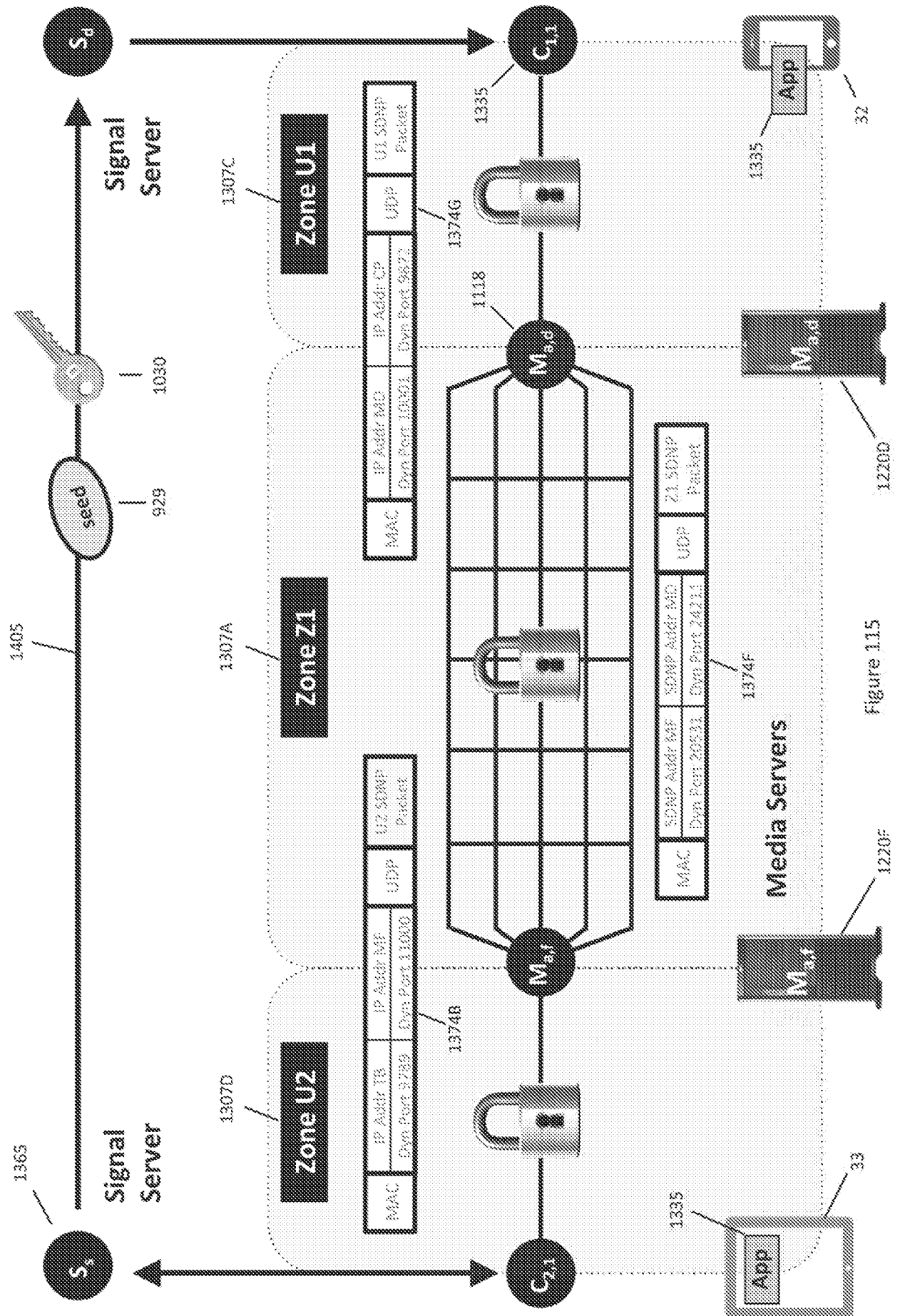


Figure 115

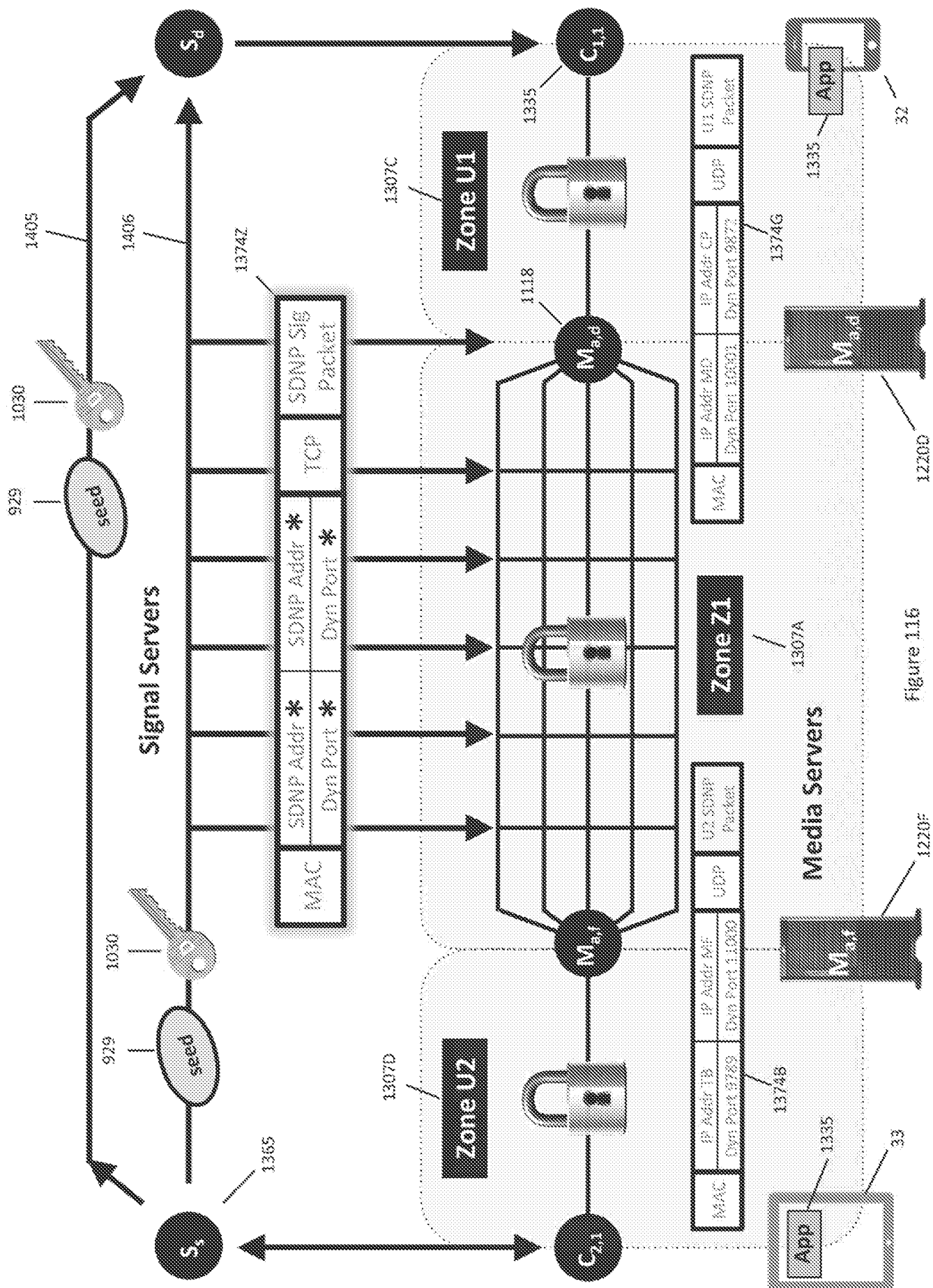


Figure 19

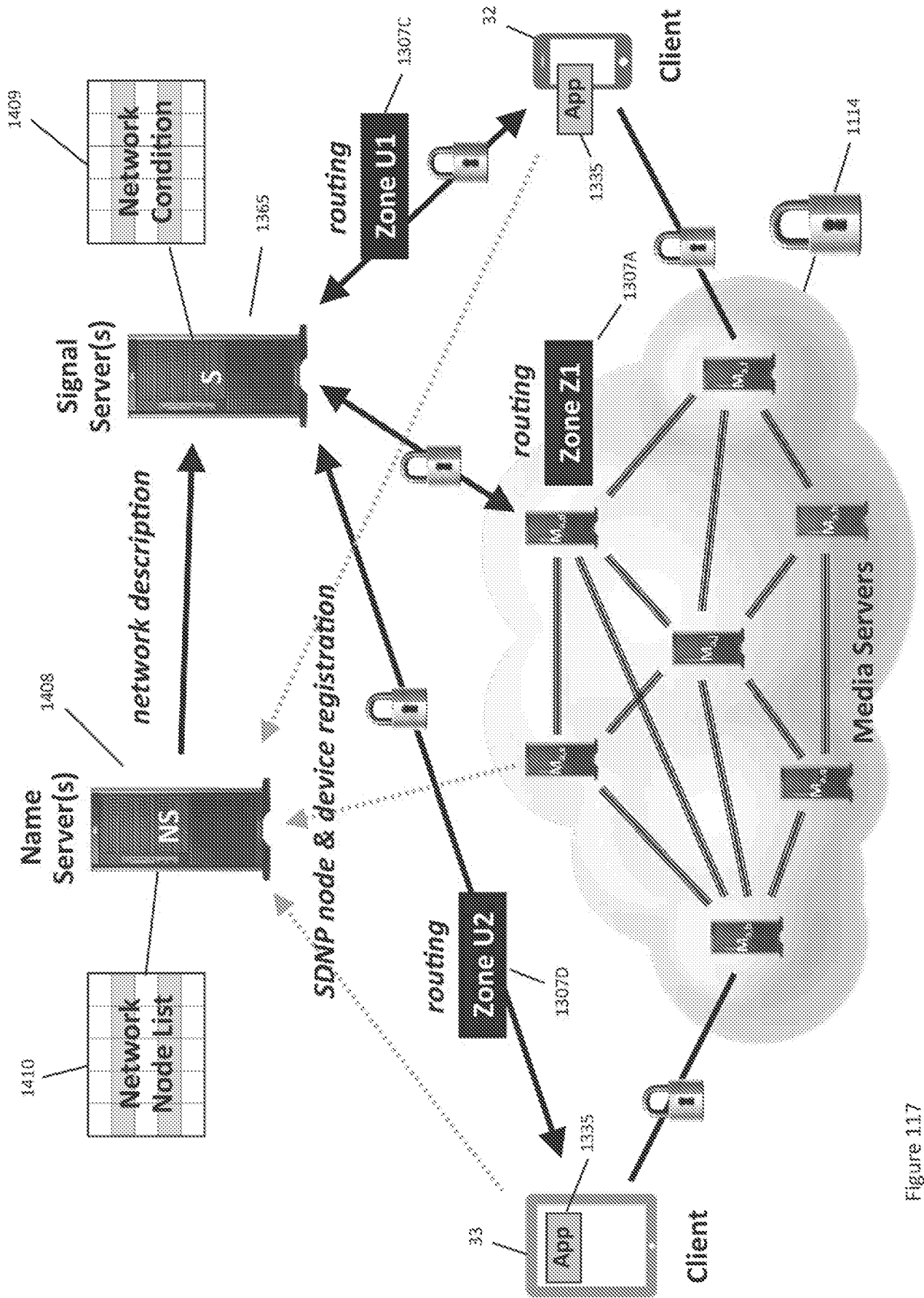


Figure 117

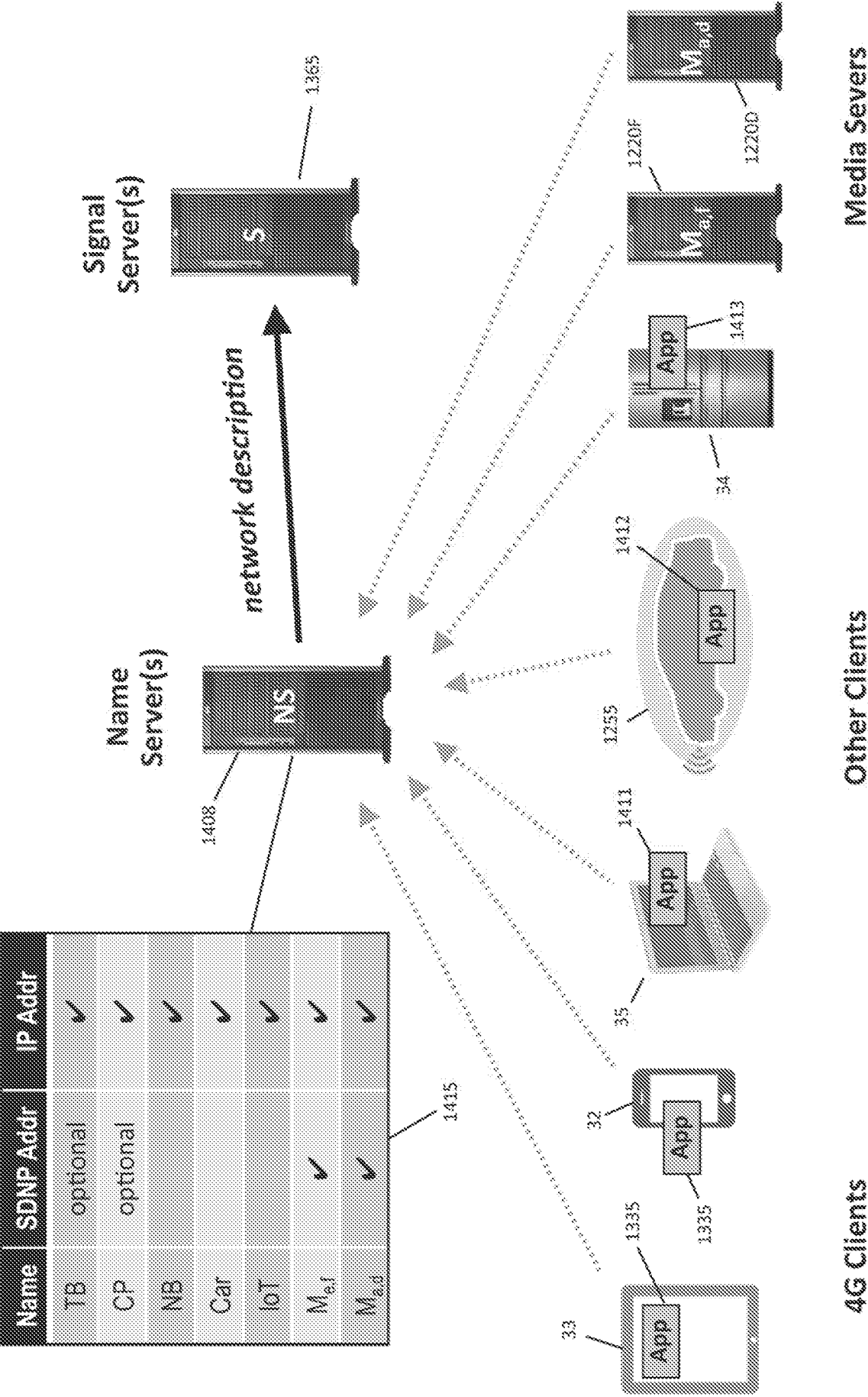


Figure 118

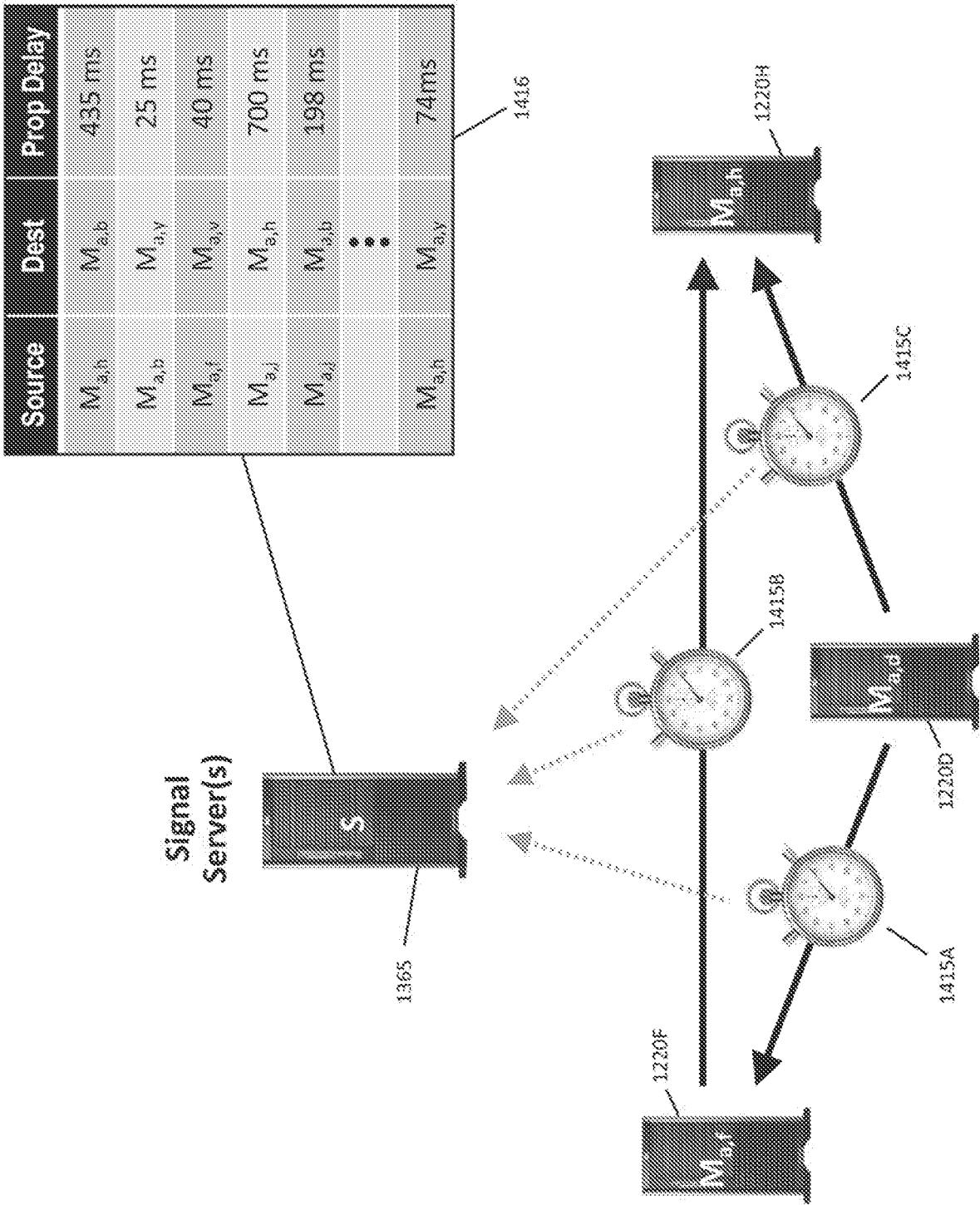


Figure 119

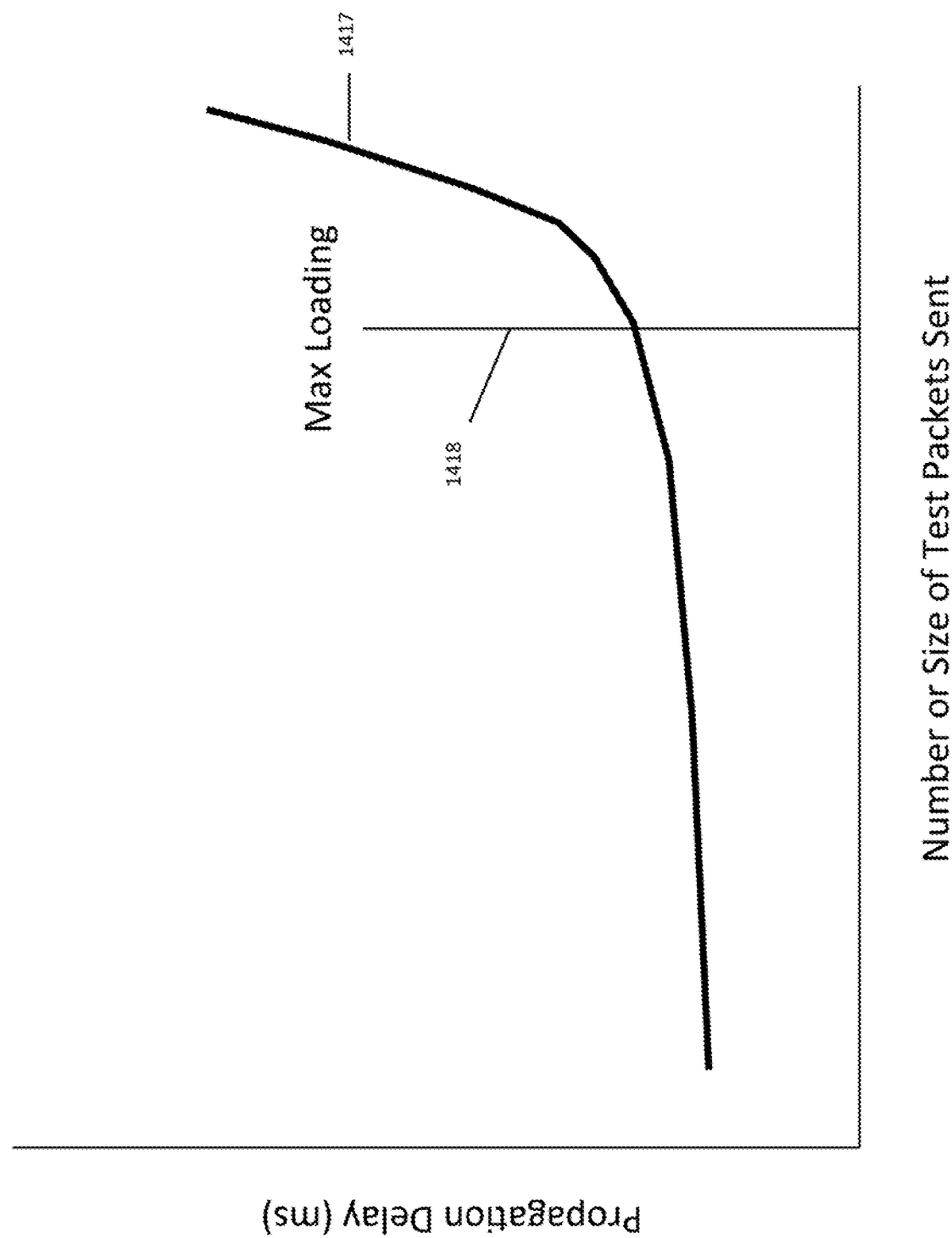


Figure 120

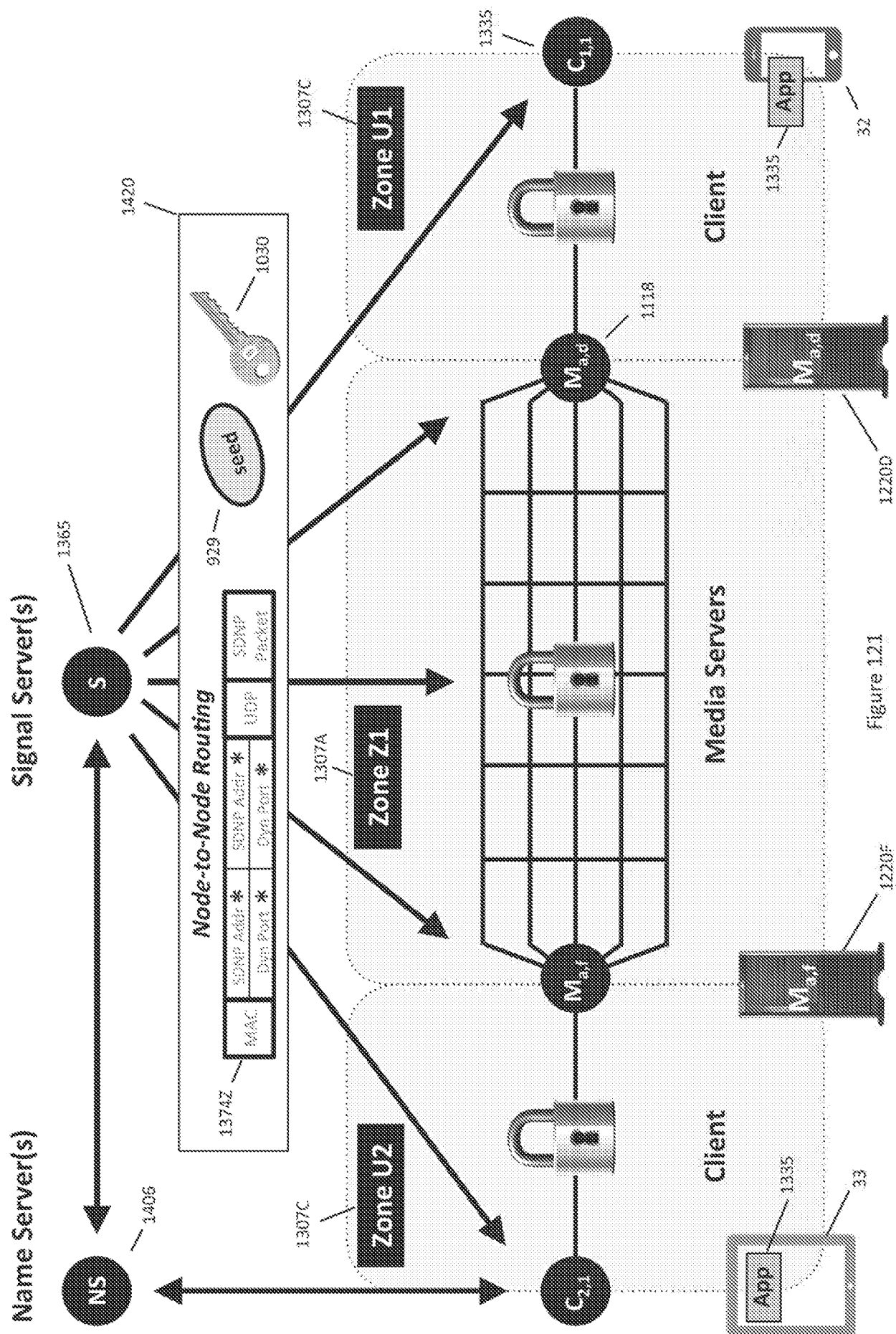


Figure 121

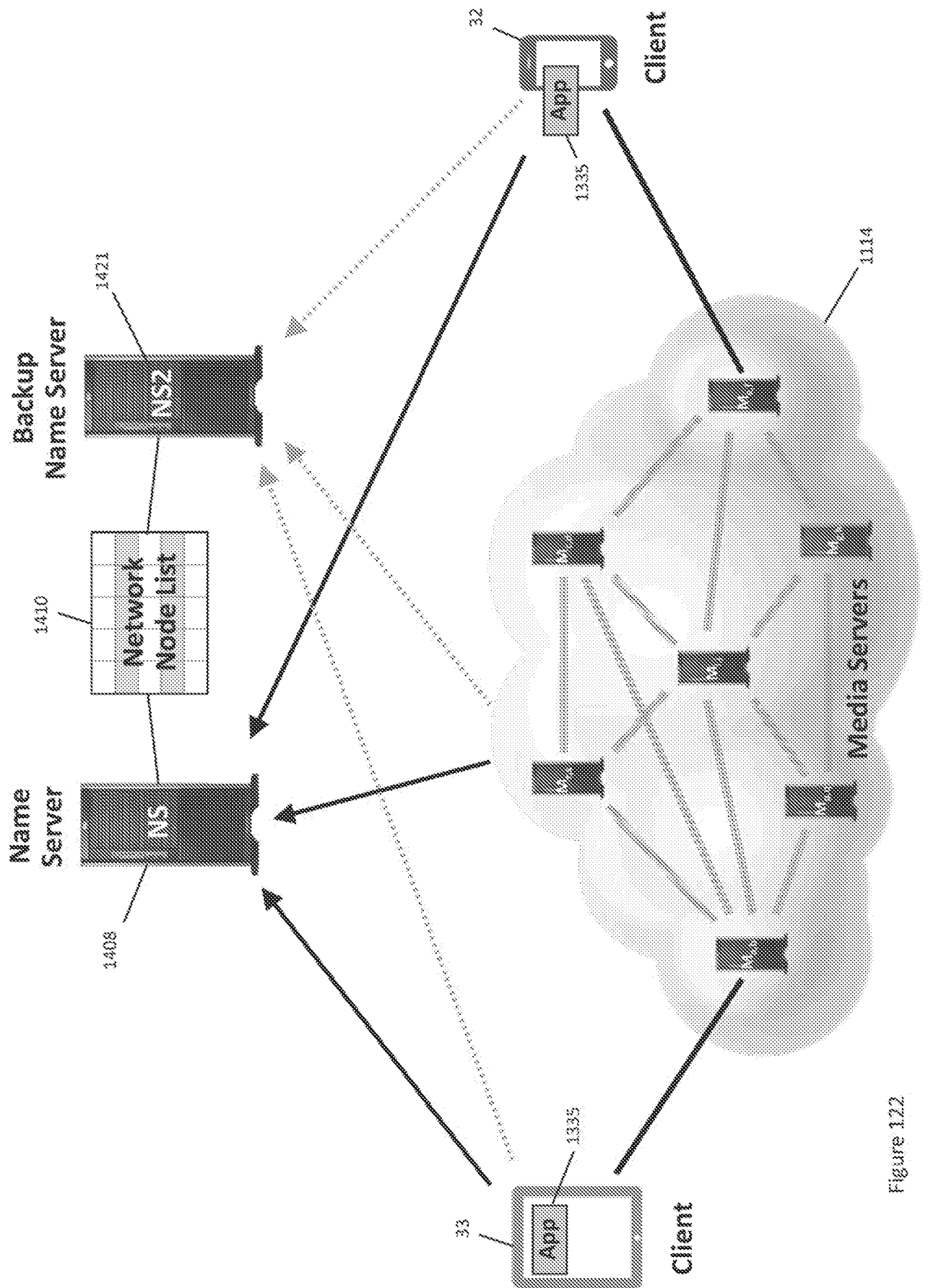


Figure 122

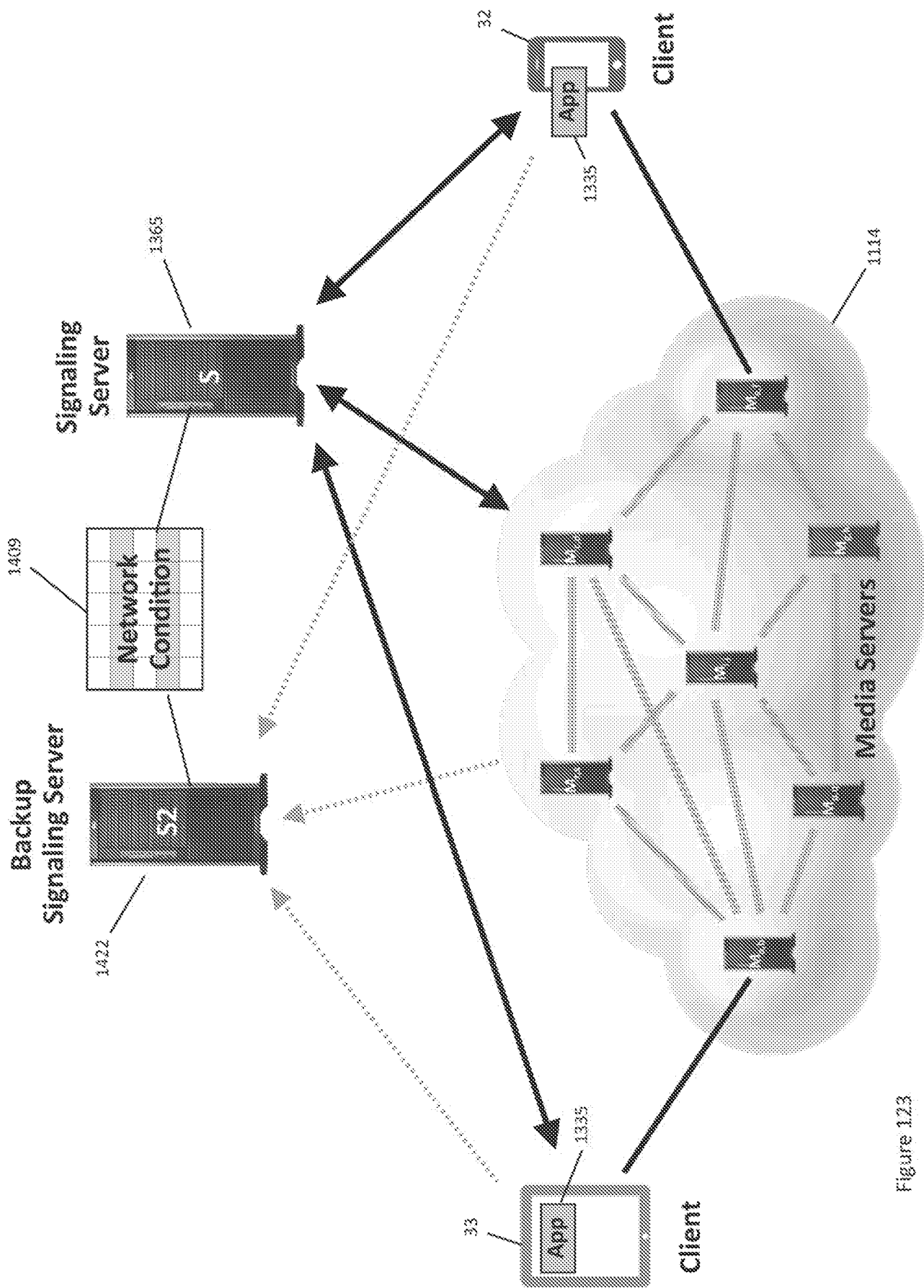


Figure 123

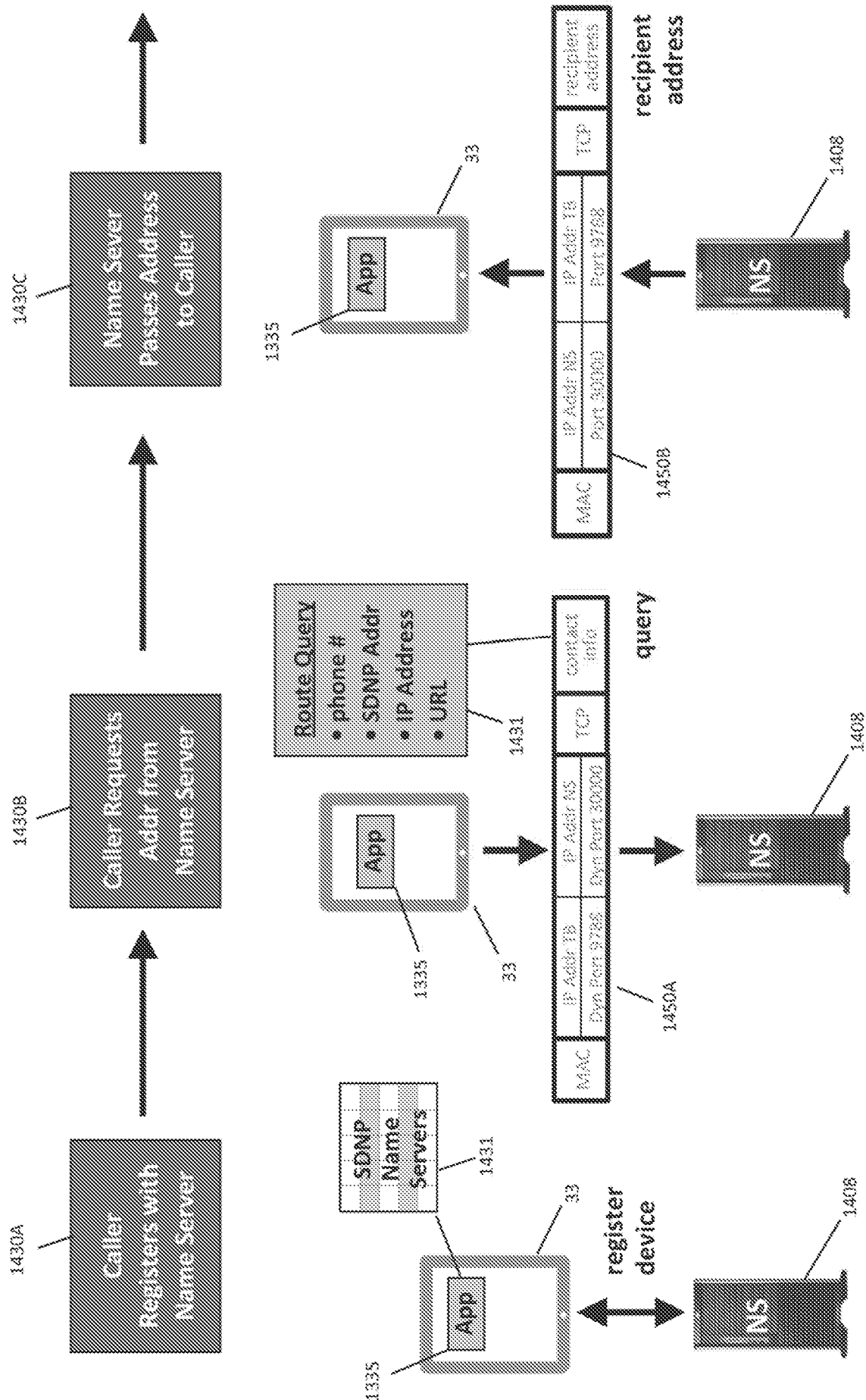


Figure 124A

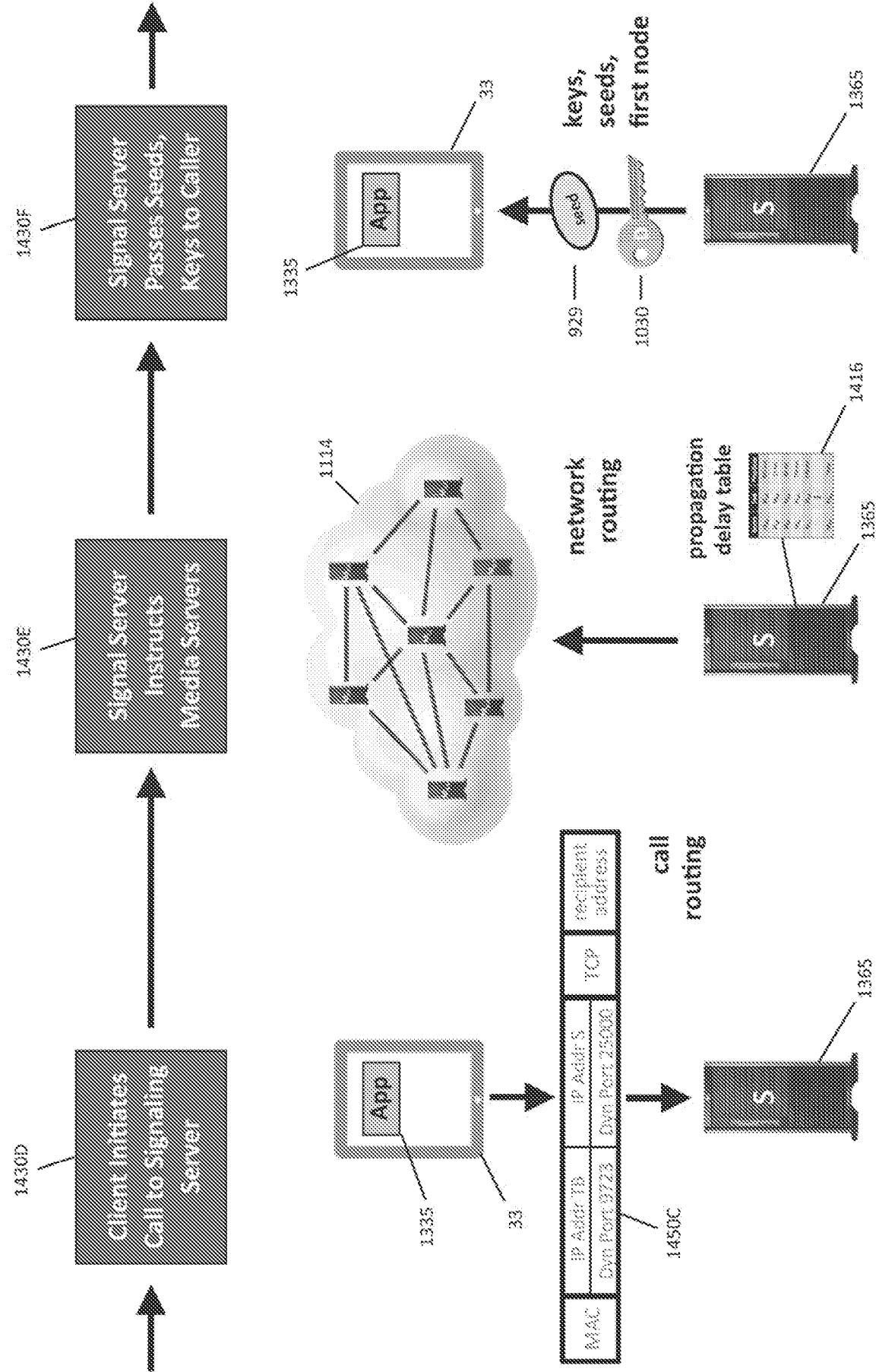


Figure 124B

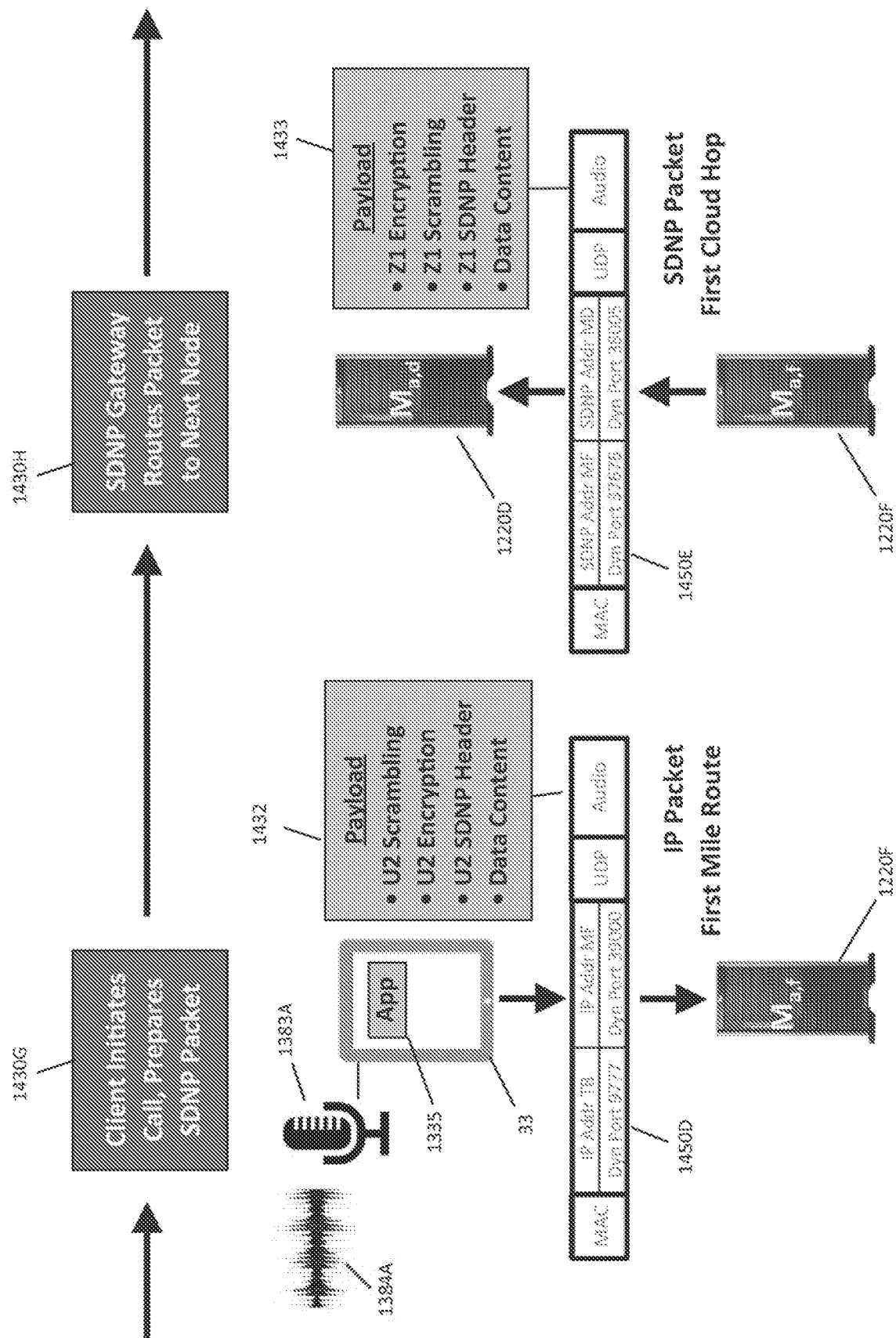


Figure 24C

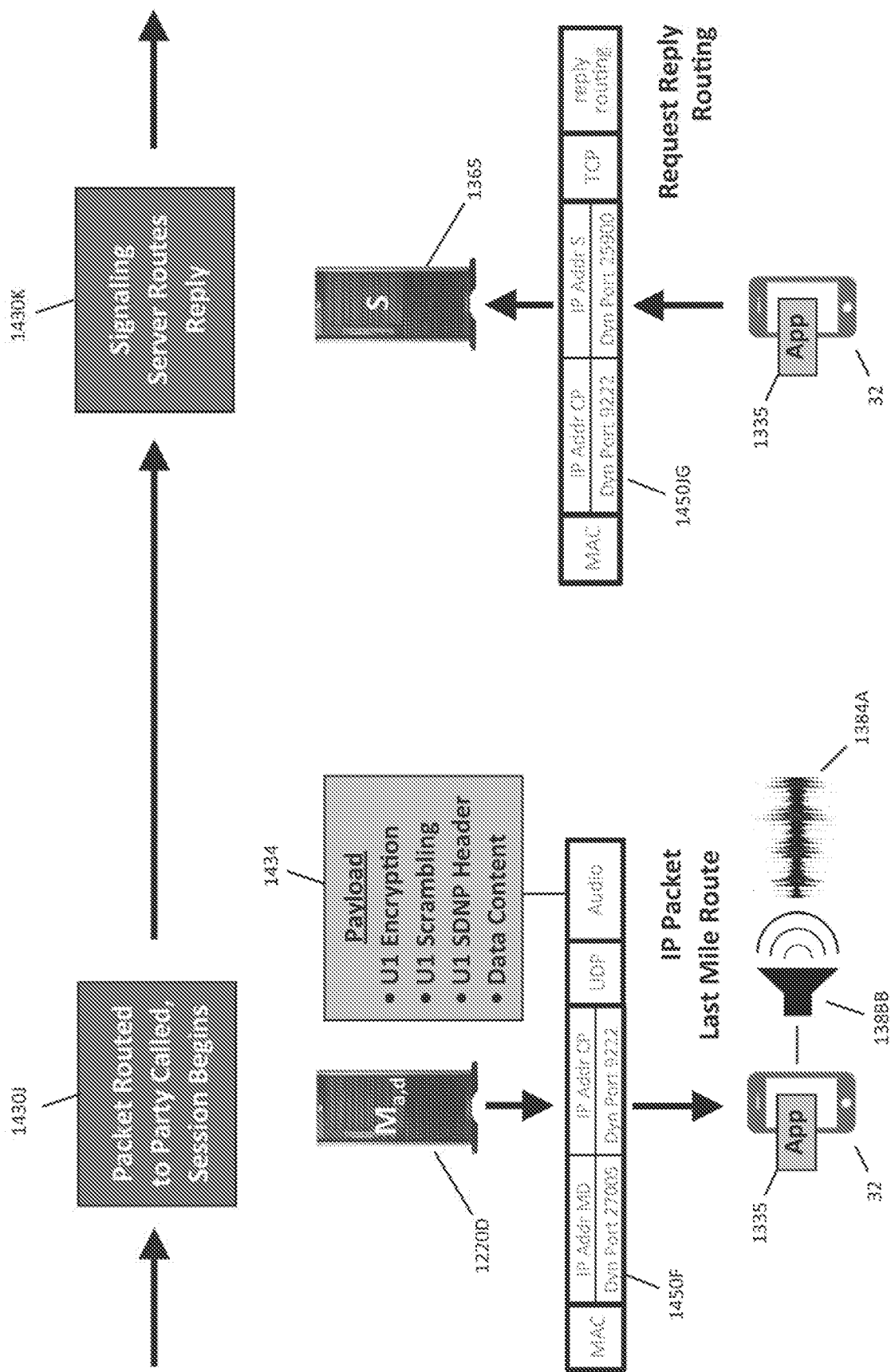


Figure 124D

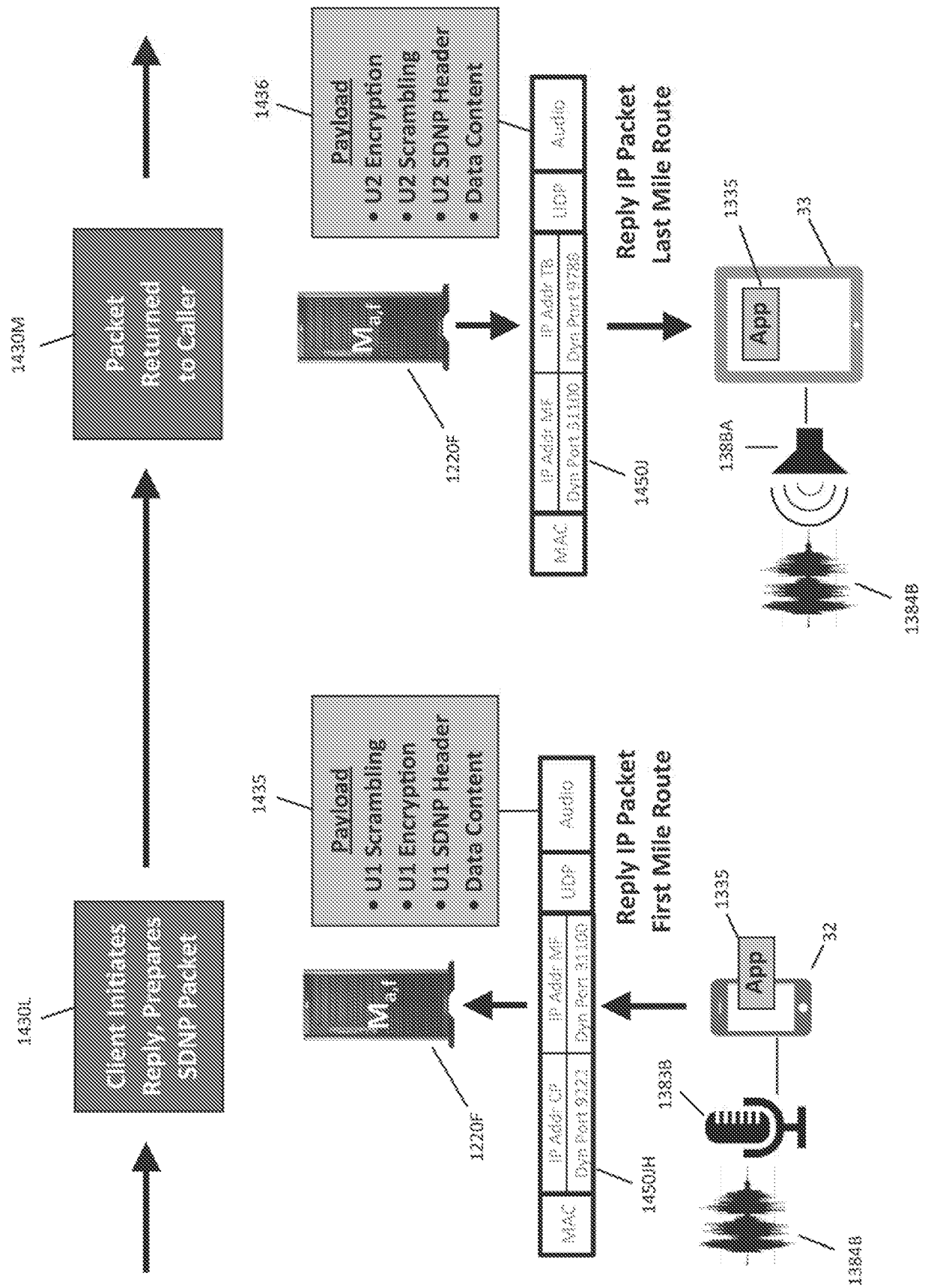


Figure 124E

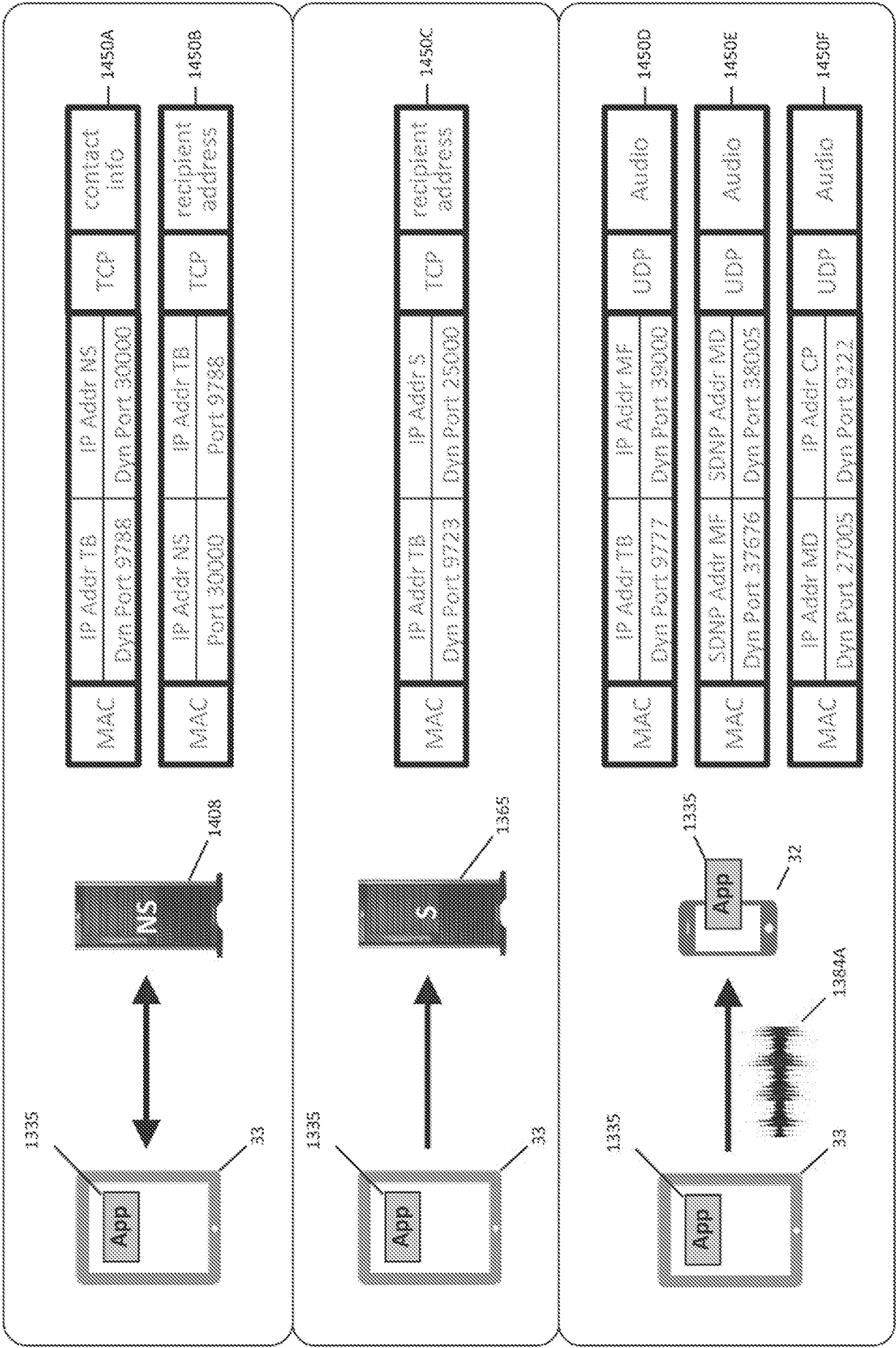


Figure 125A

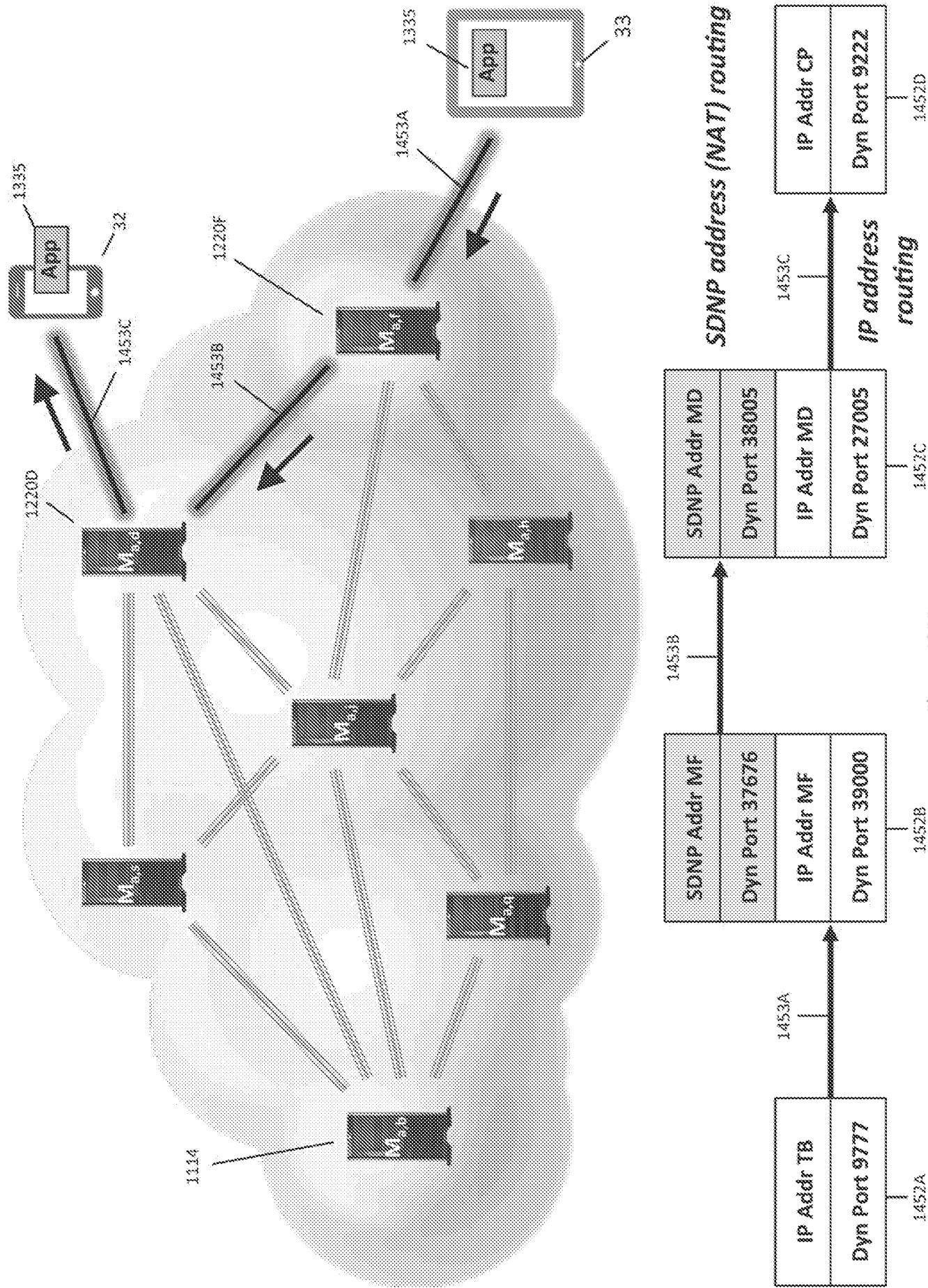


Figure 125B

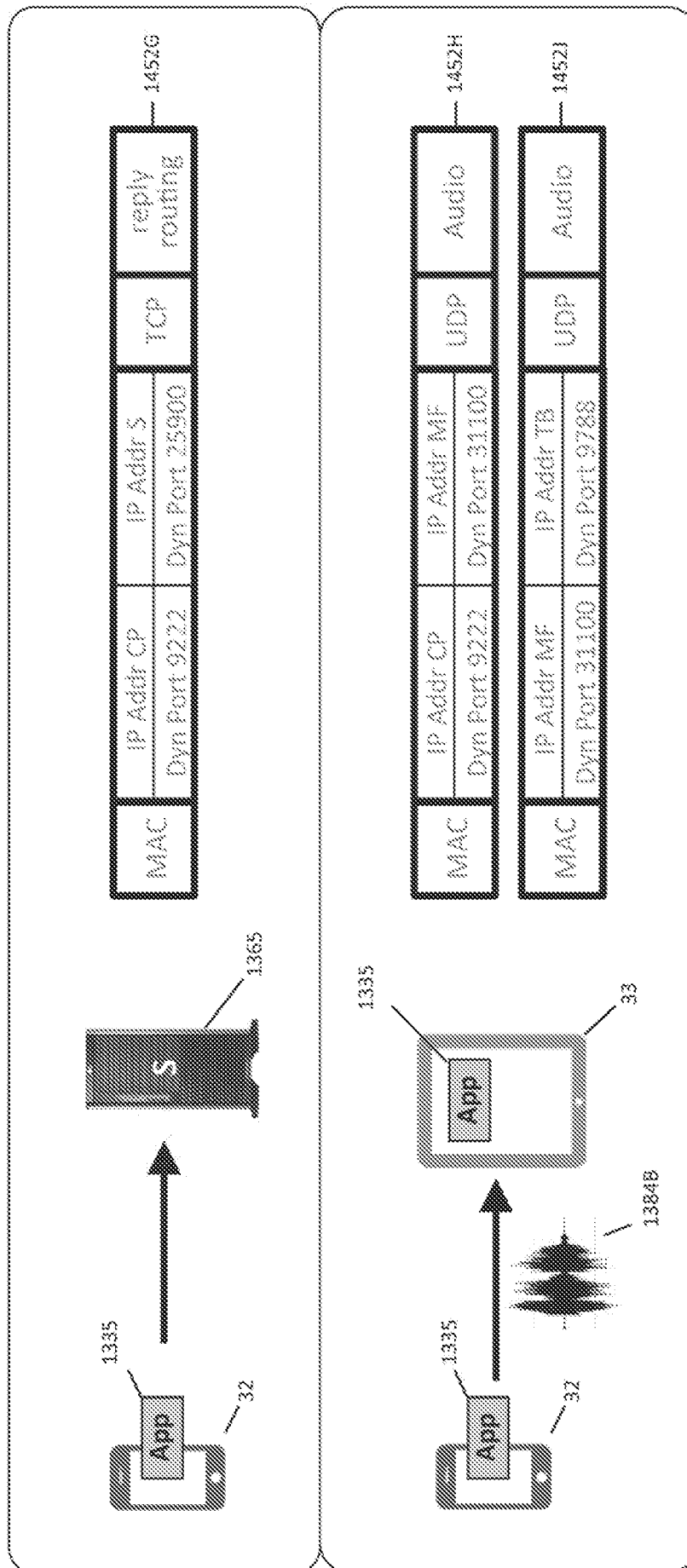
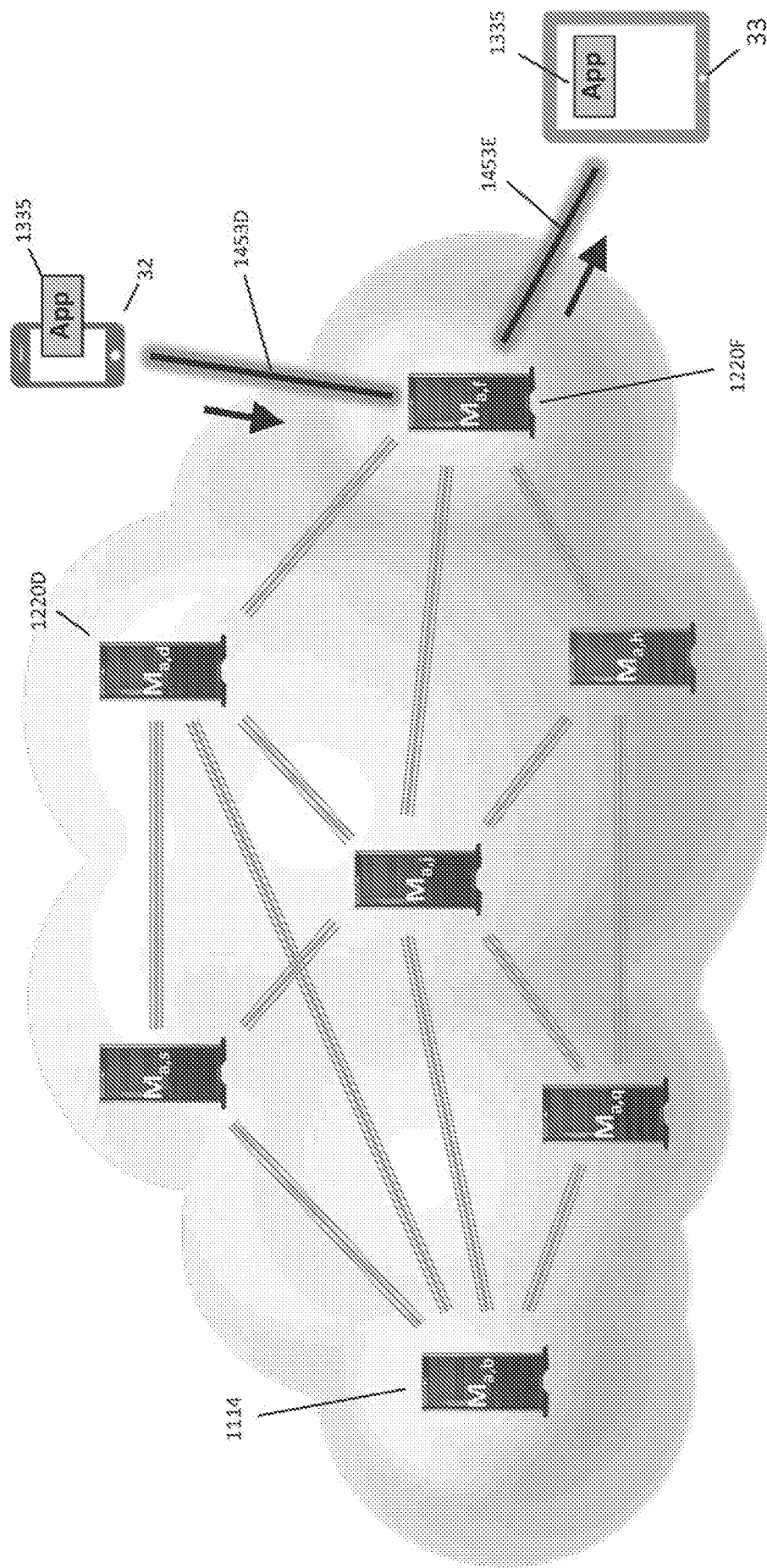


Figure 12.6A



IP address only routing

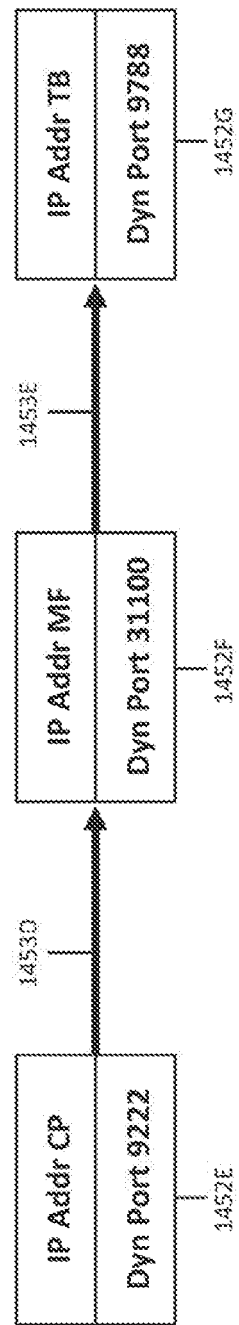
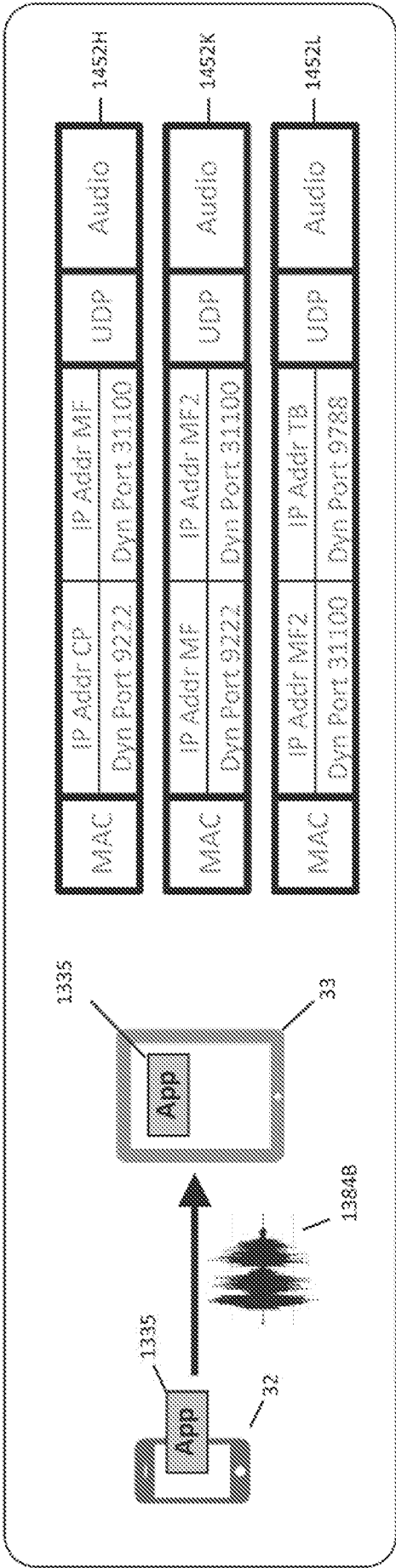


Figure 126B



translated IP address routing (using backup server)

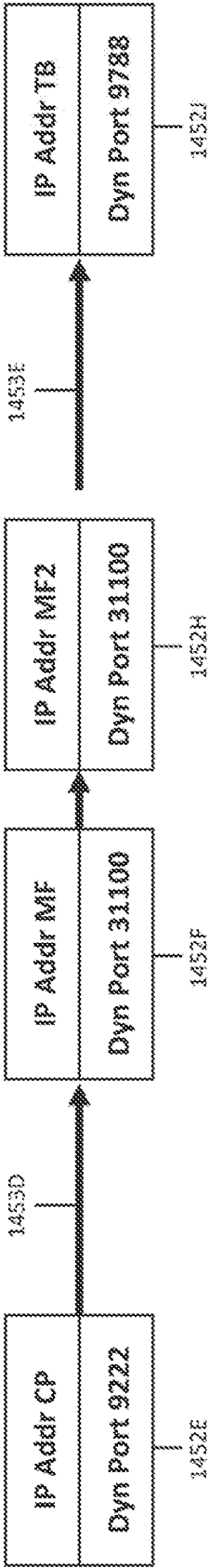


Figure 126C

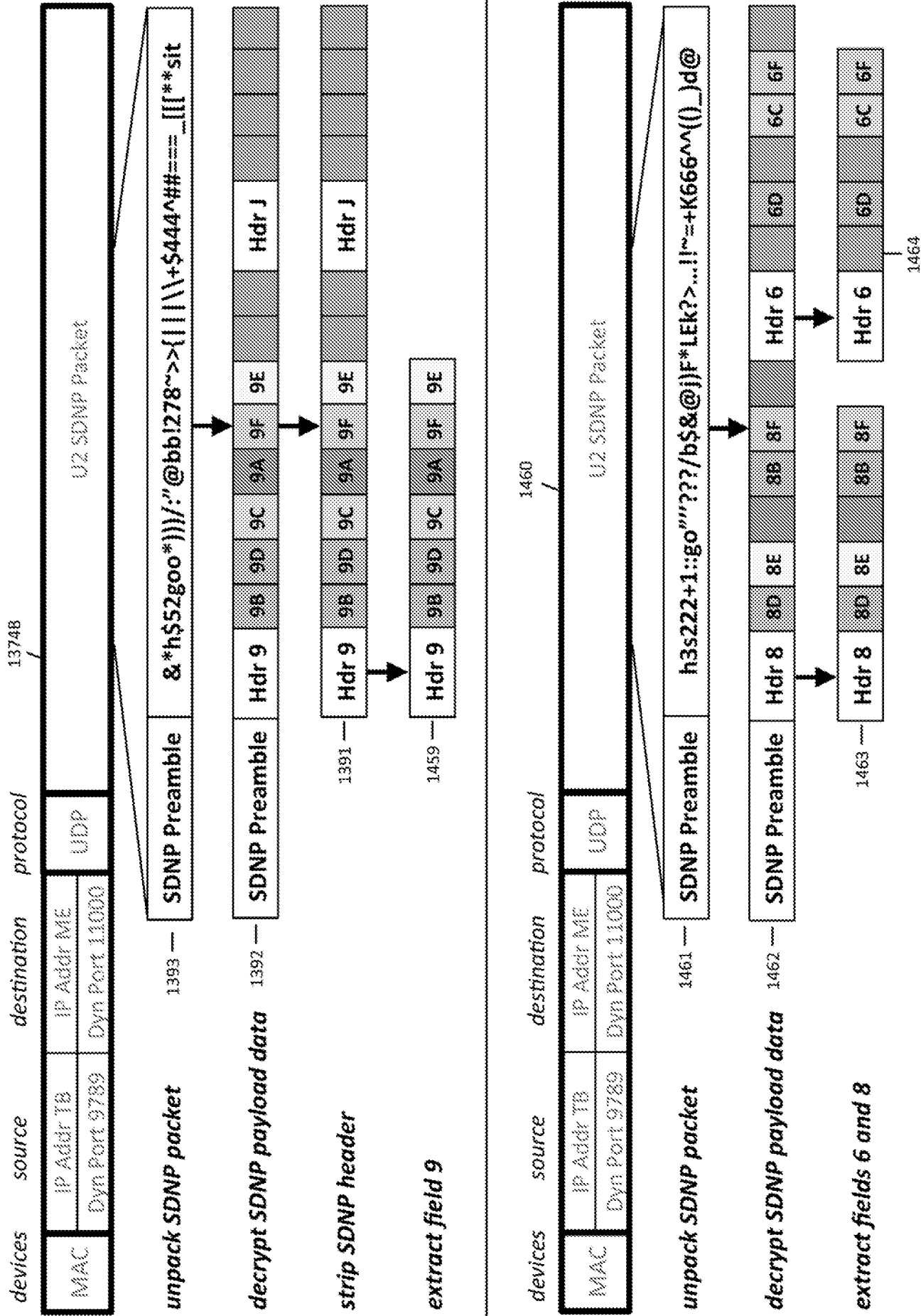


Figure 127

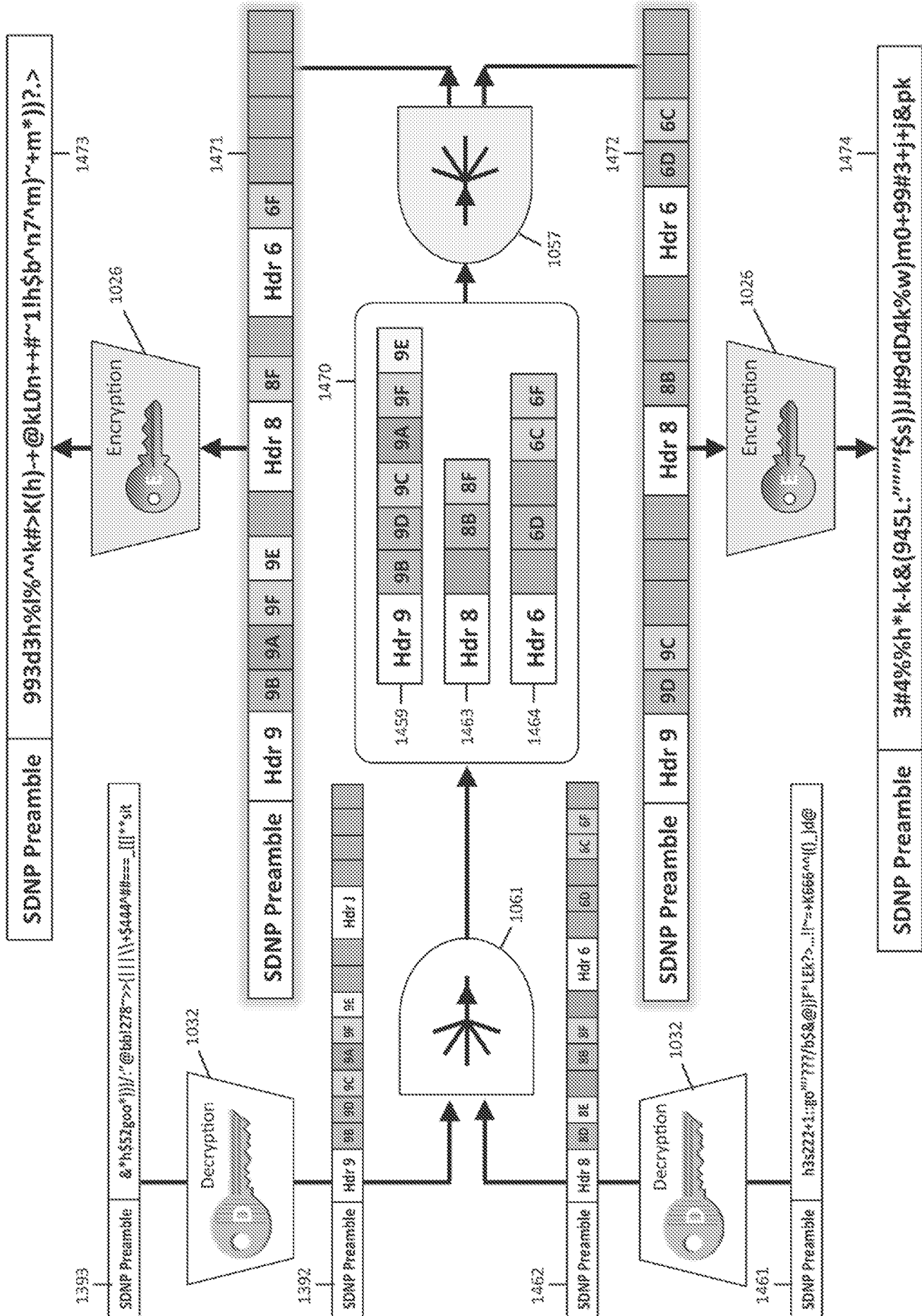


Figure 128

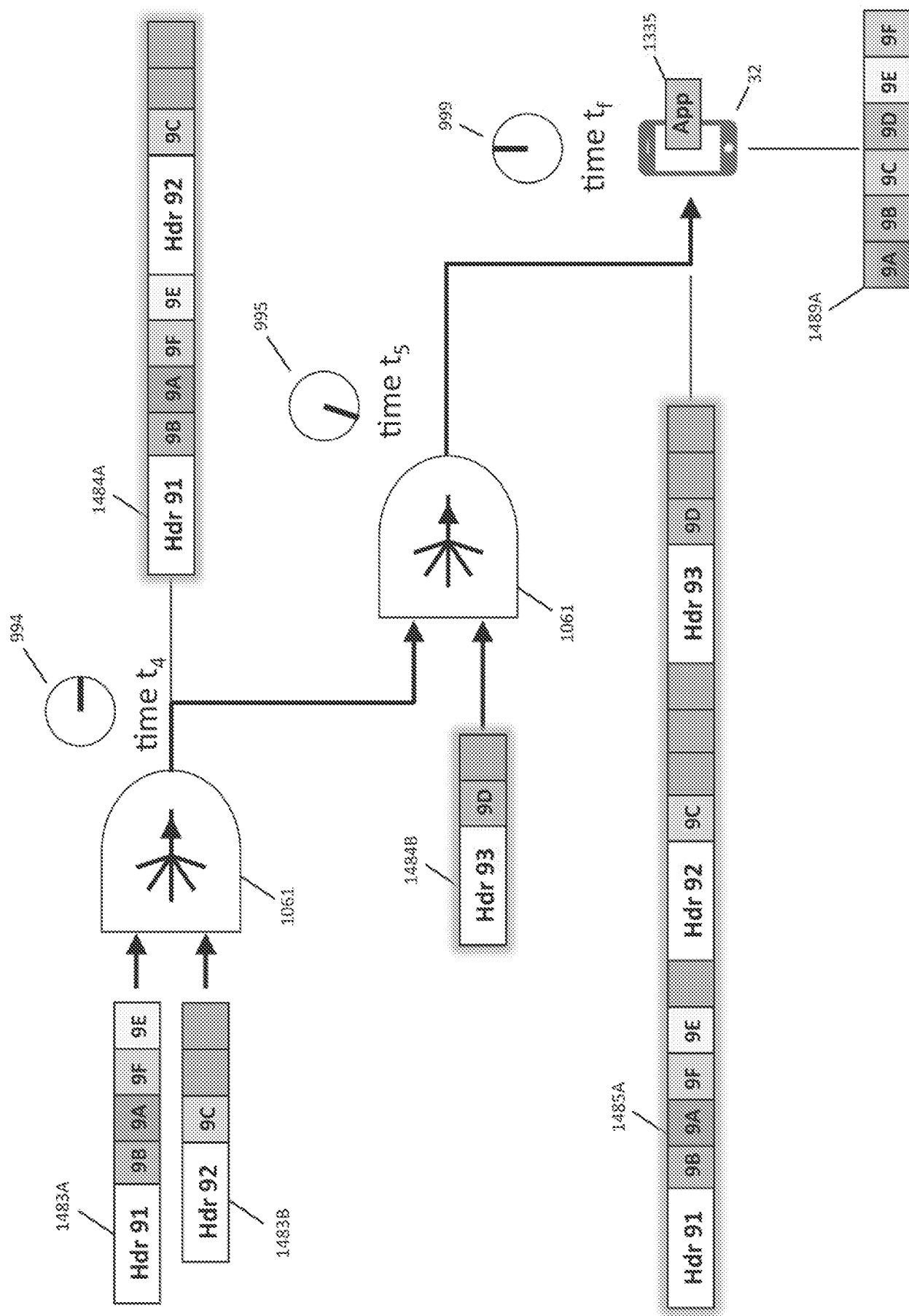


Figure 129A

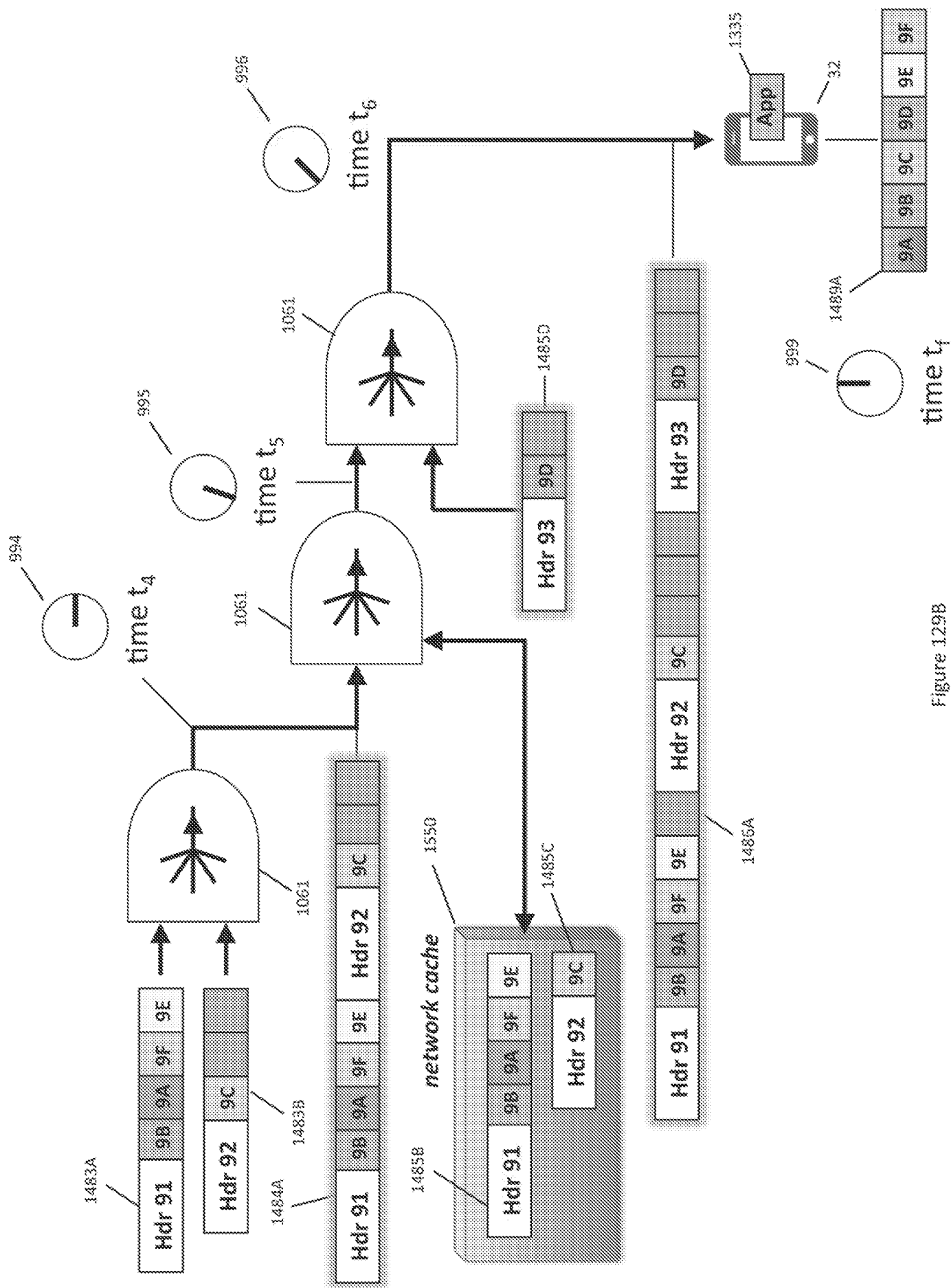


Figure 129B

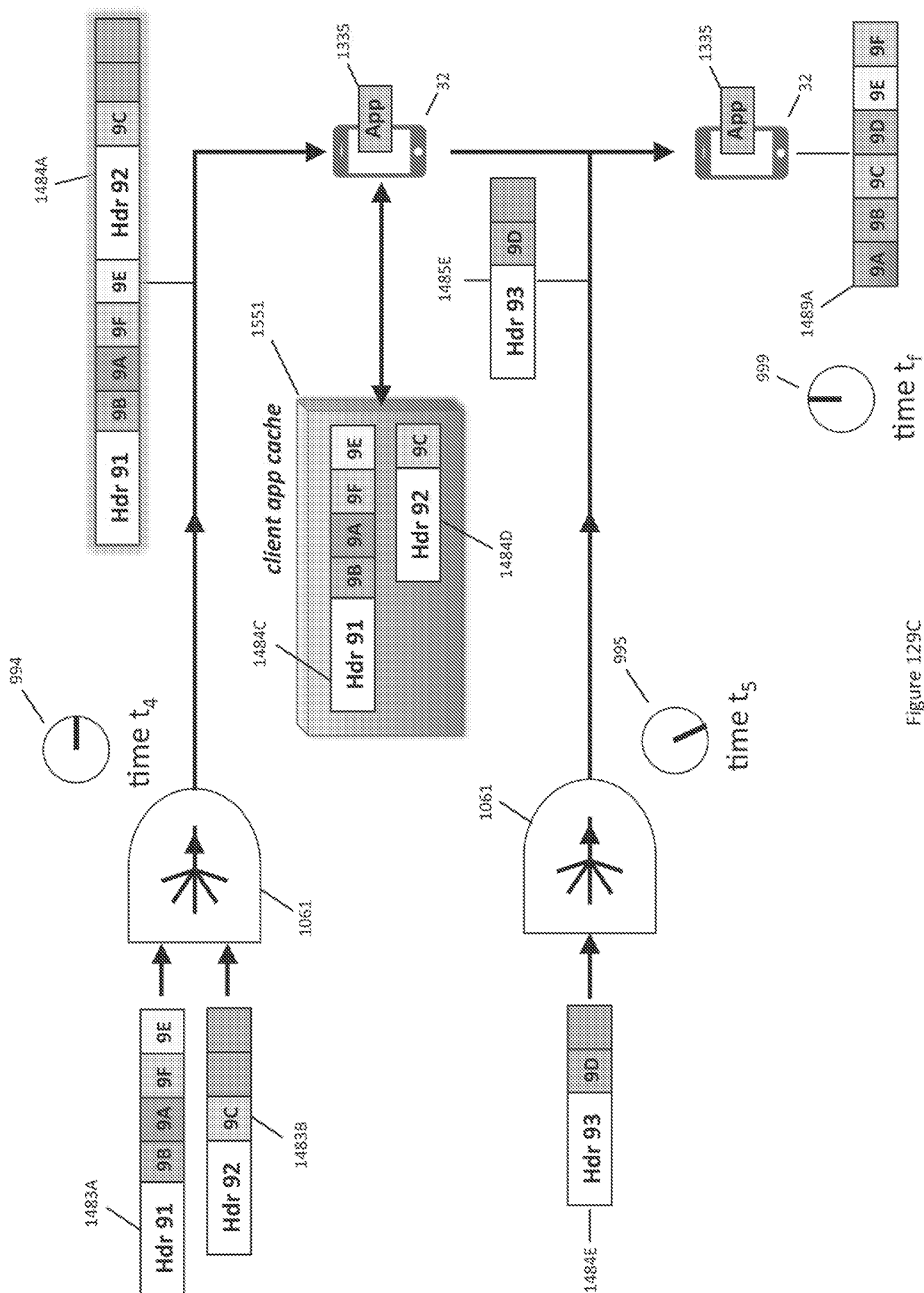


Figure 129C

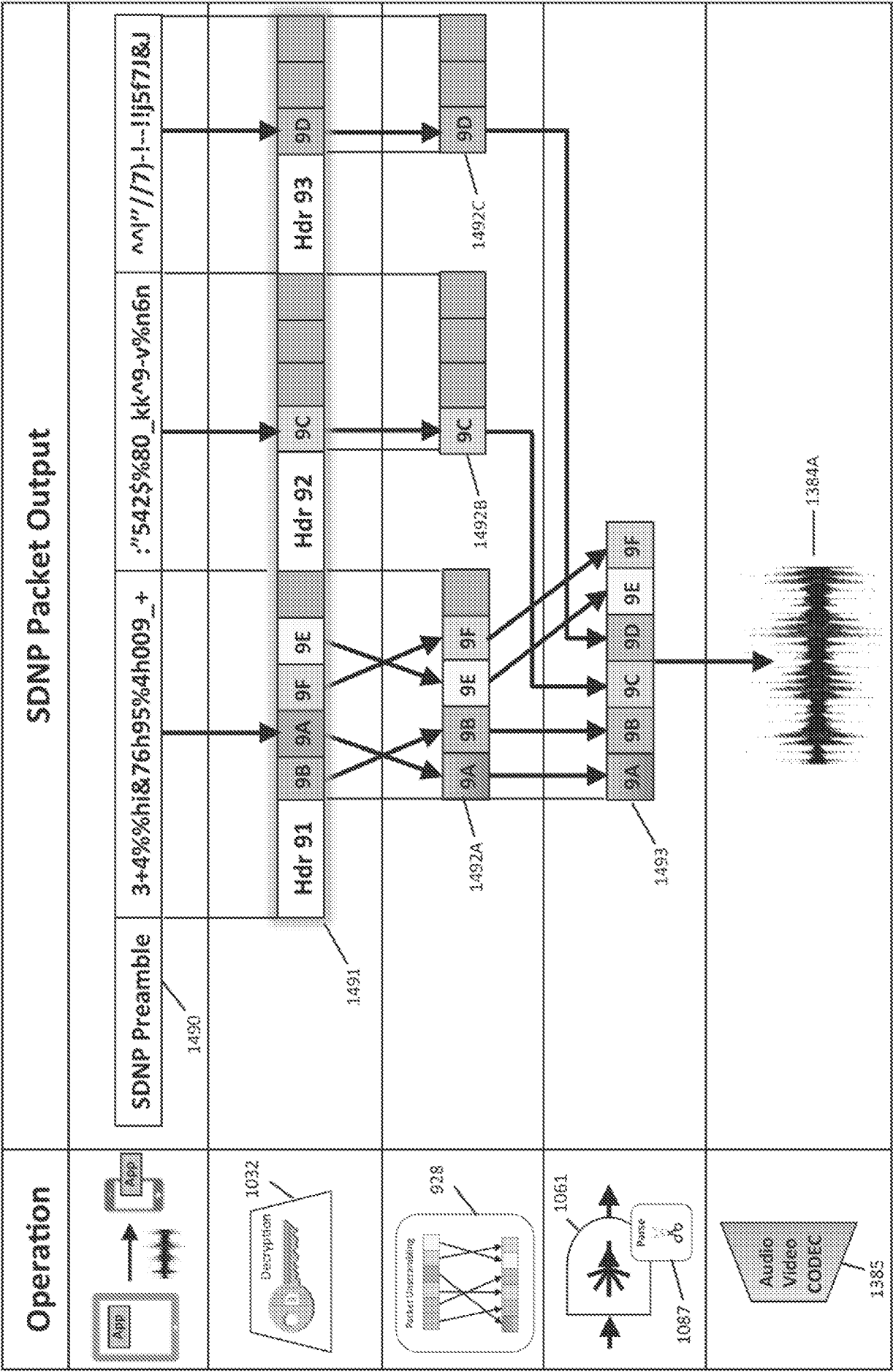


Figure 129D

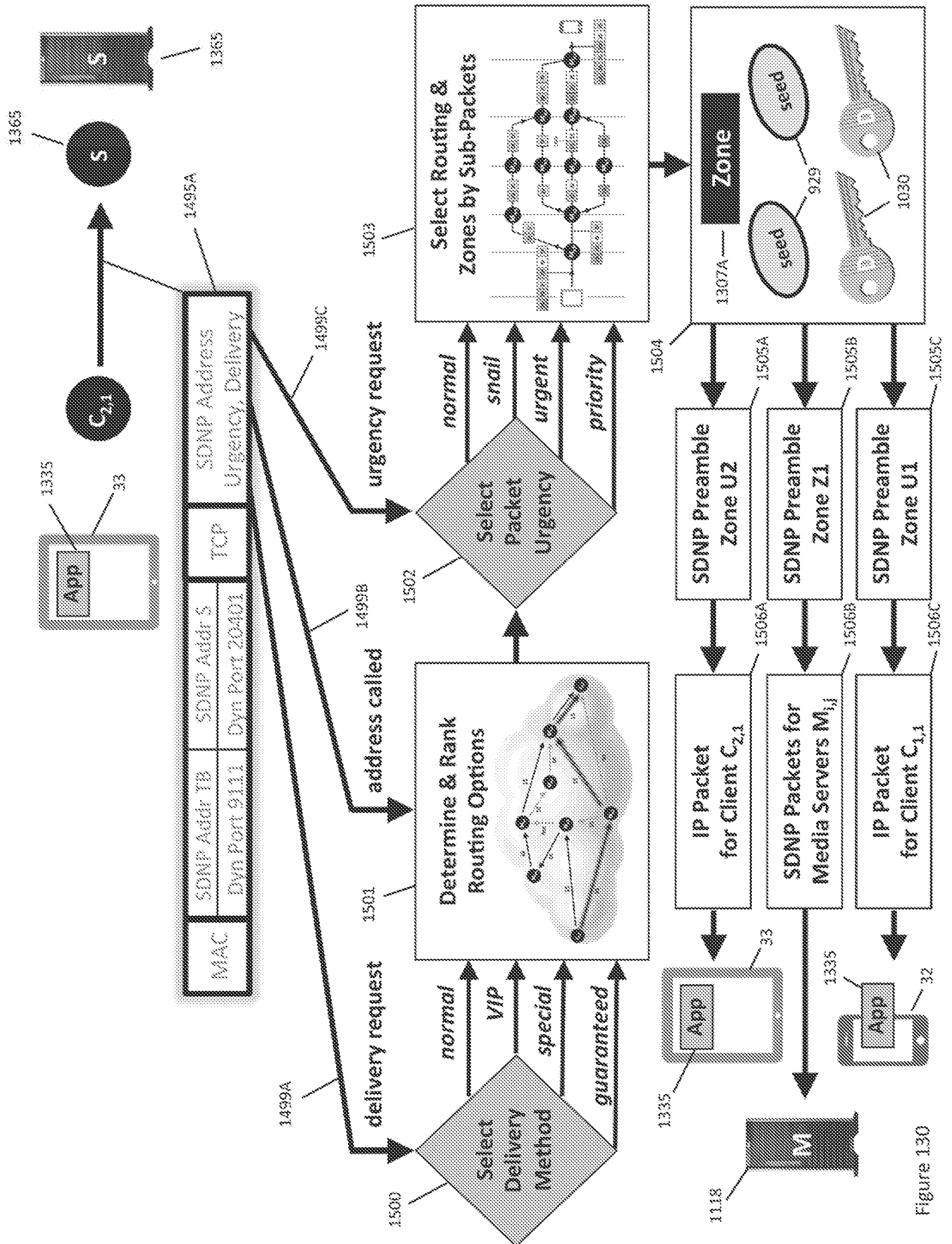


Figure 130

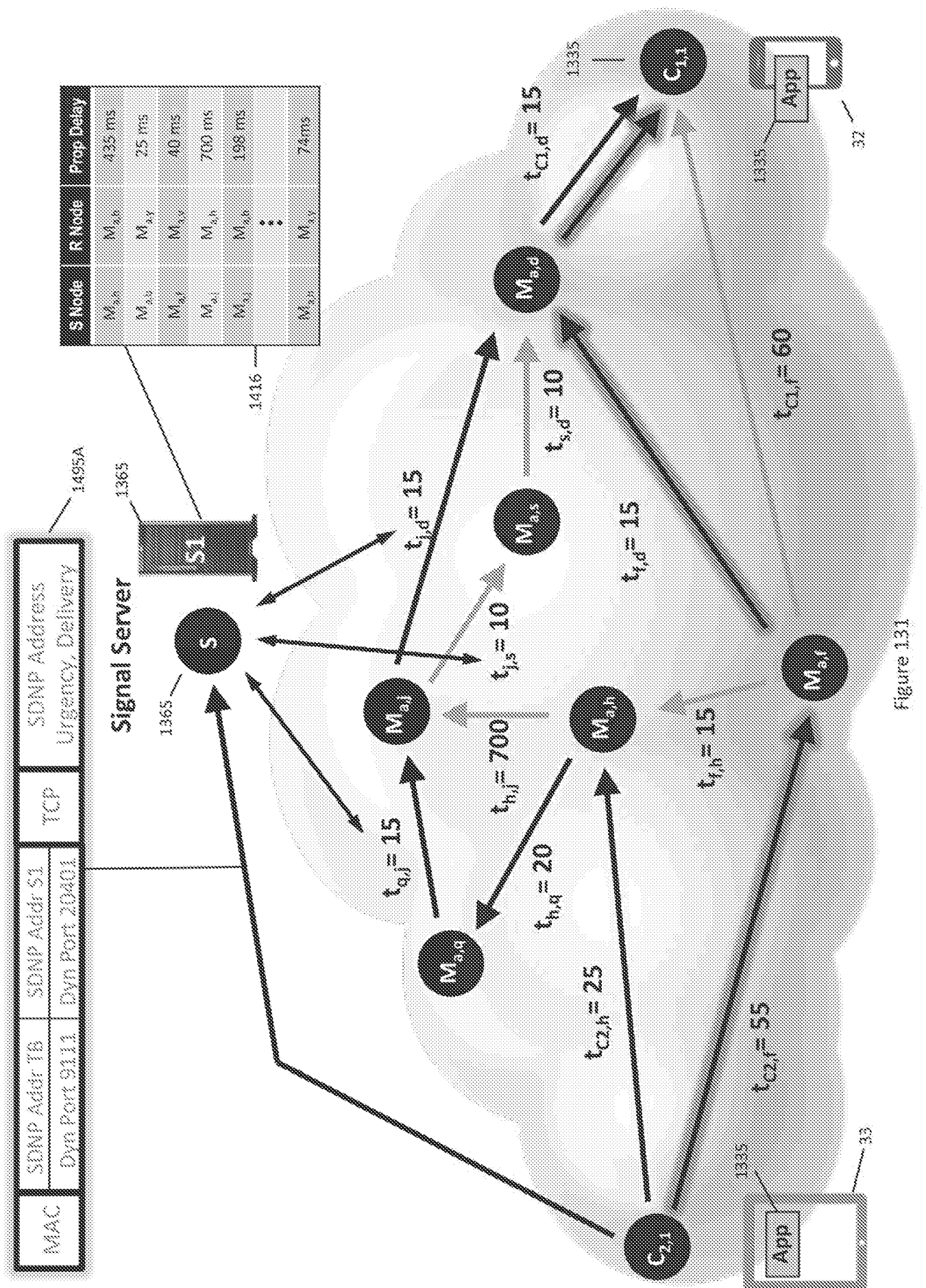


Figure 13-1

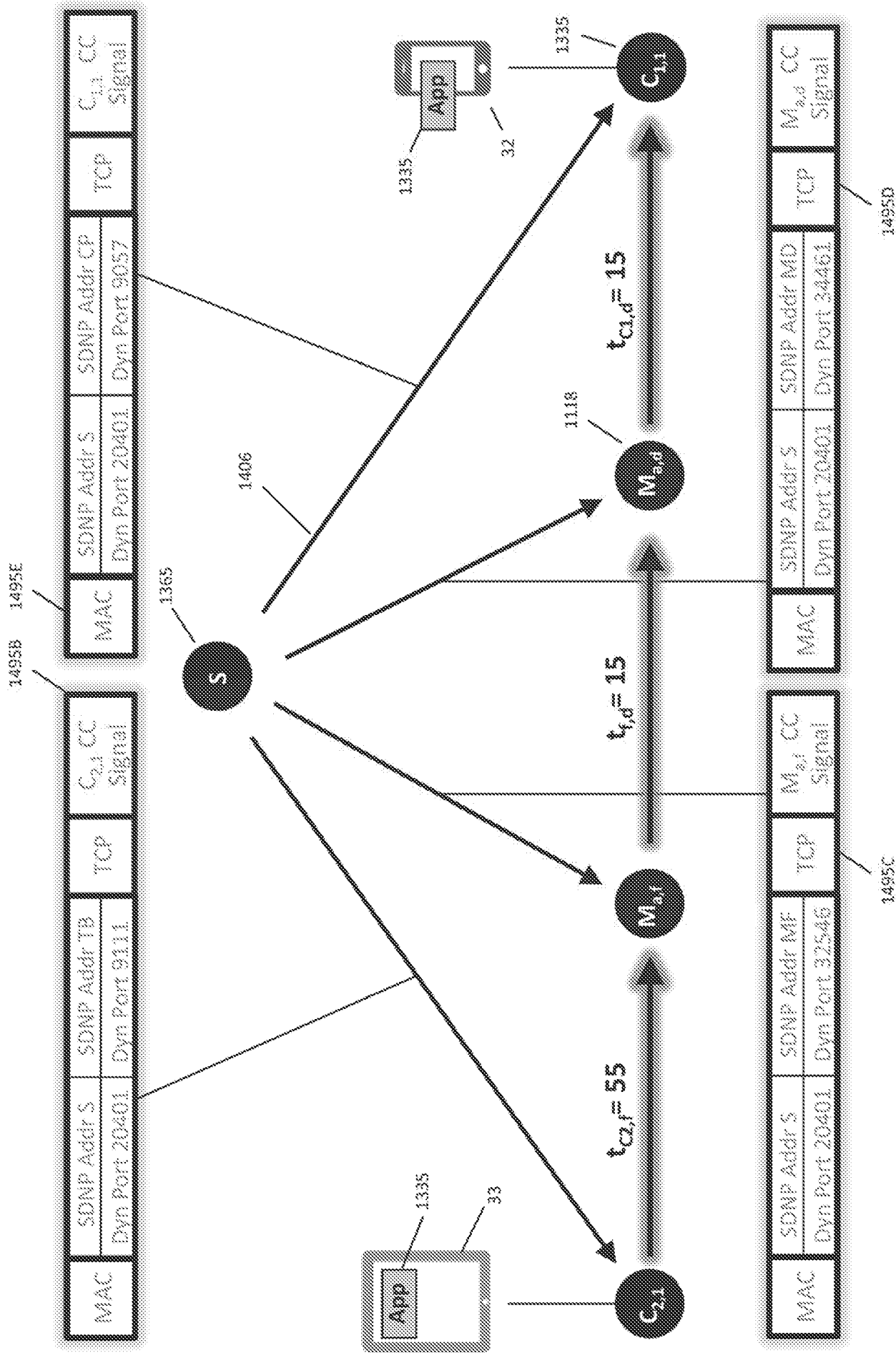


Figure 132A

Command & Control Signal Packets (Path 1-2)

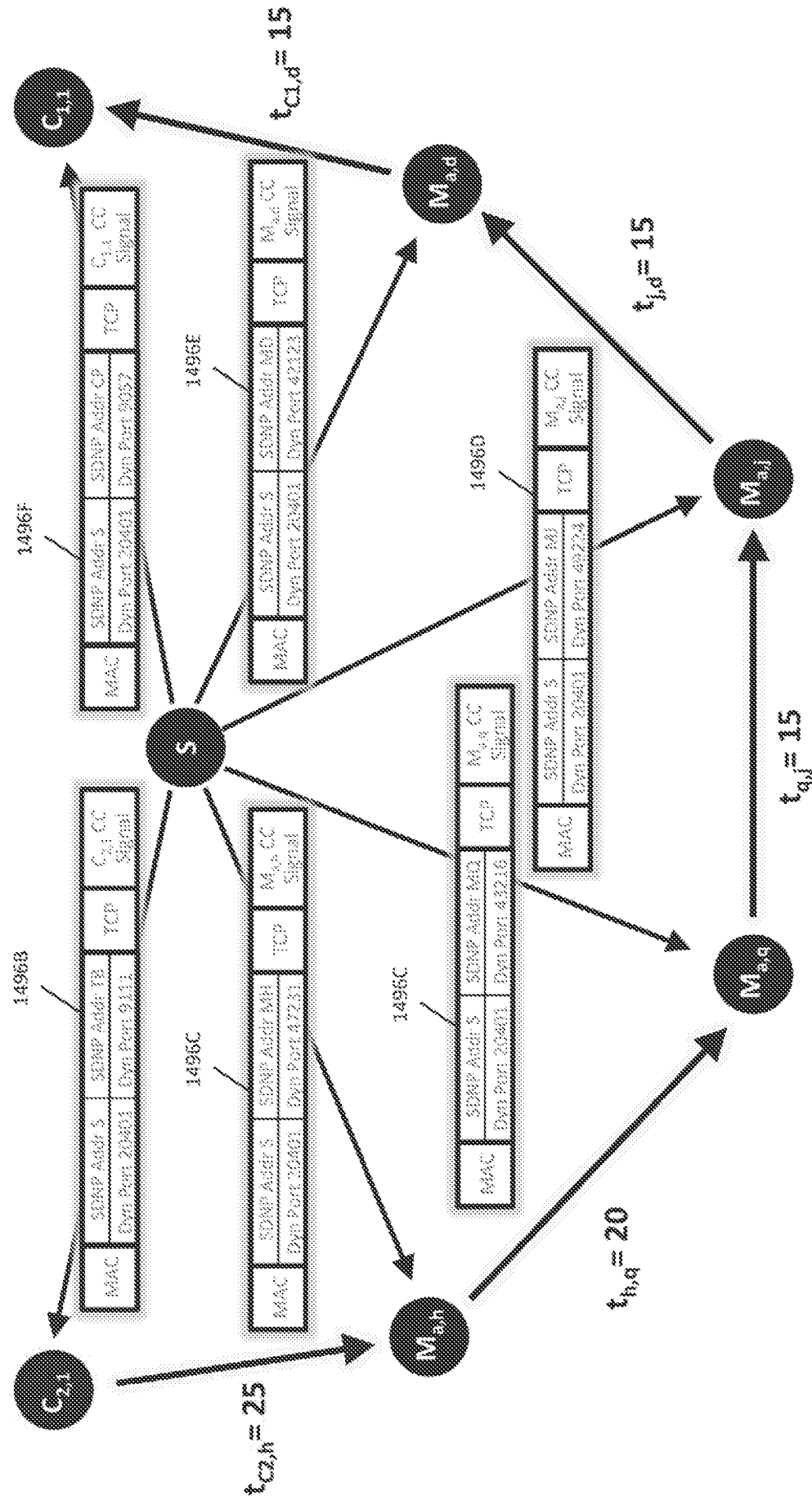


Figure 132B

Packet Reconstruction

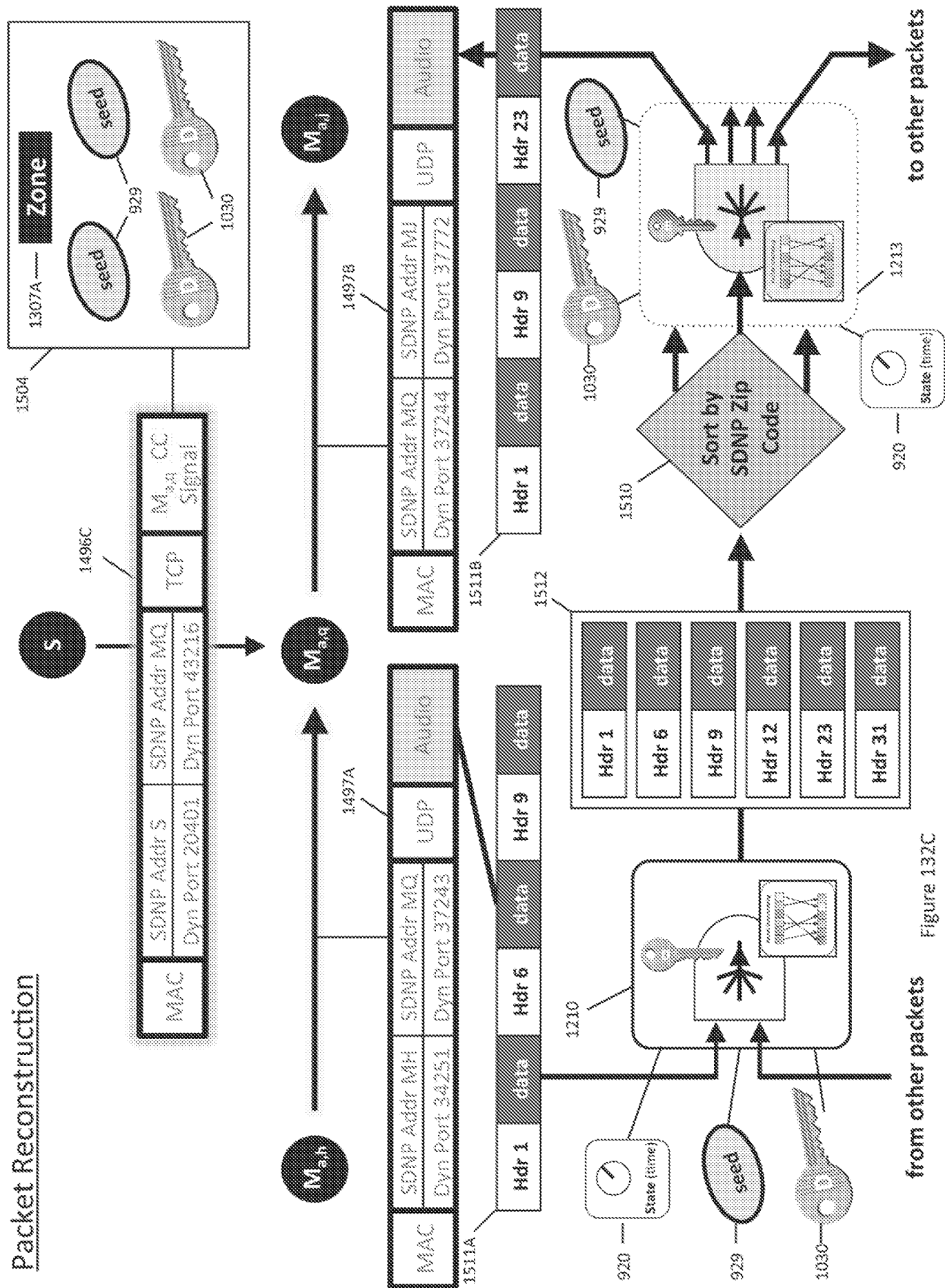


Figure 132C

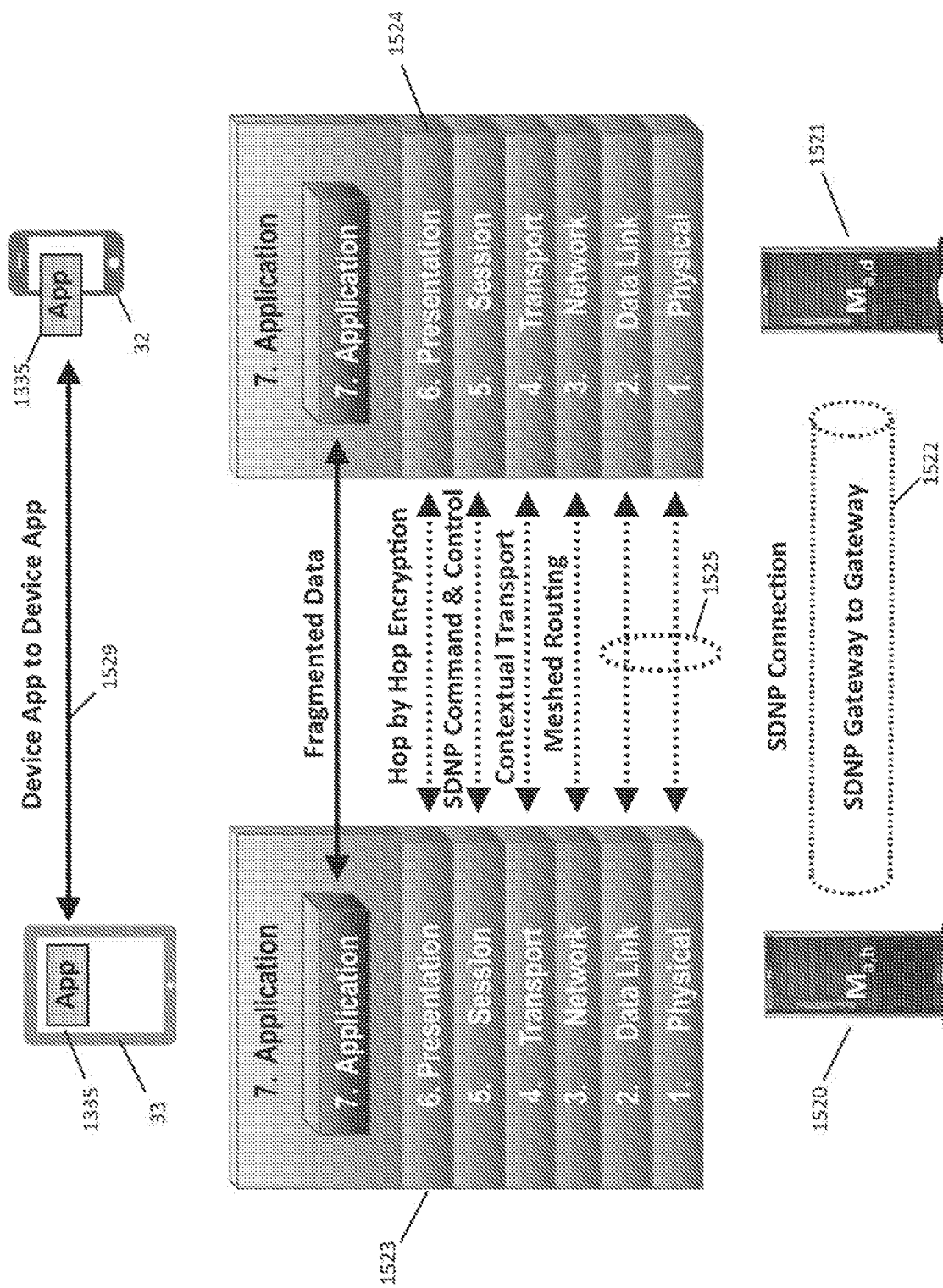


Figure 133A

Encrypted SDNP Tunnel Session

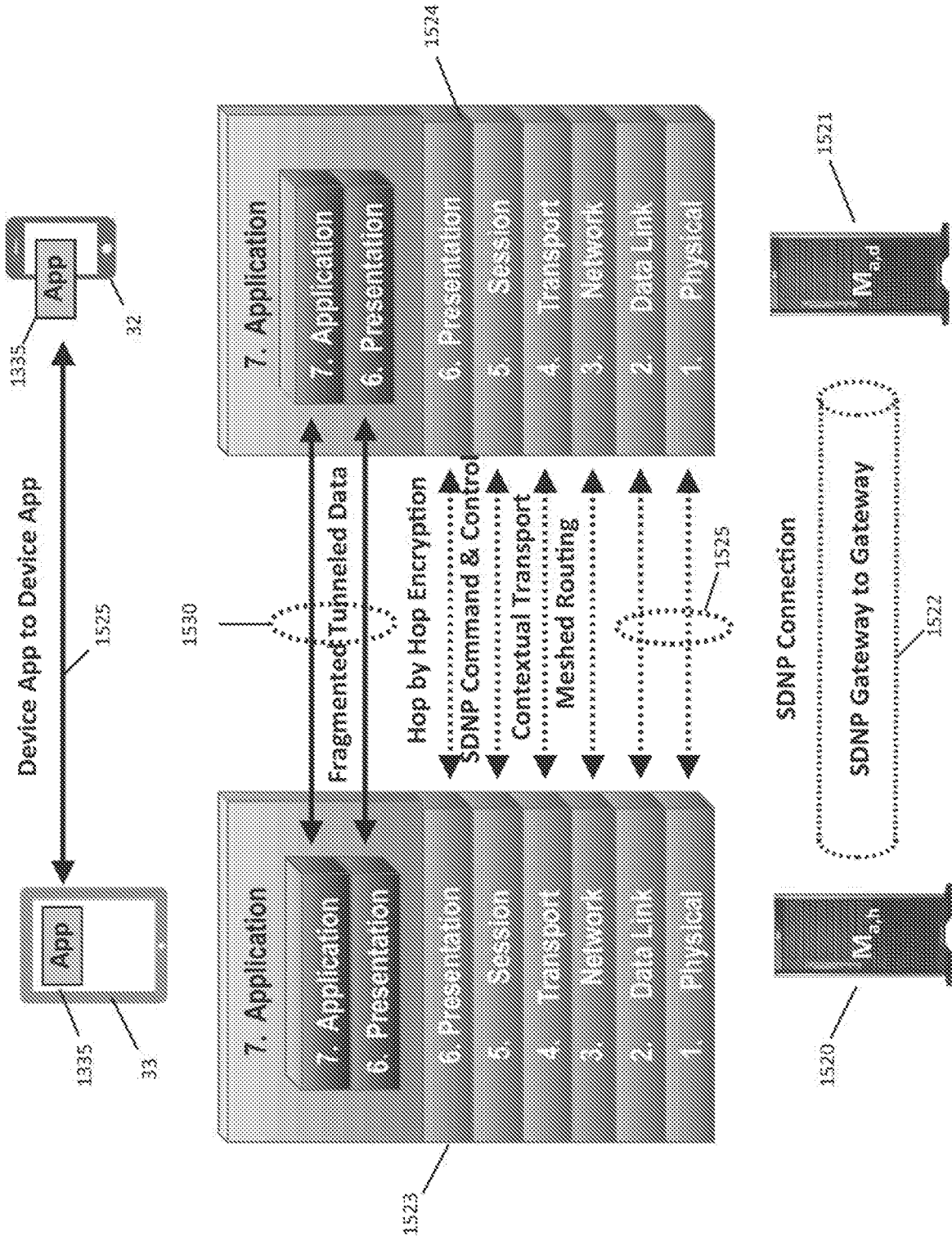


Figure 133B

SDNP Packet Race Routing

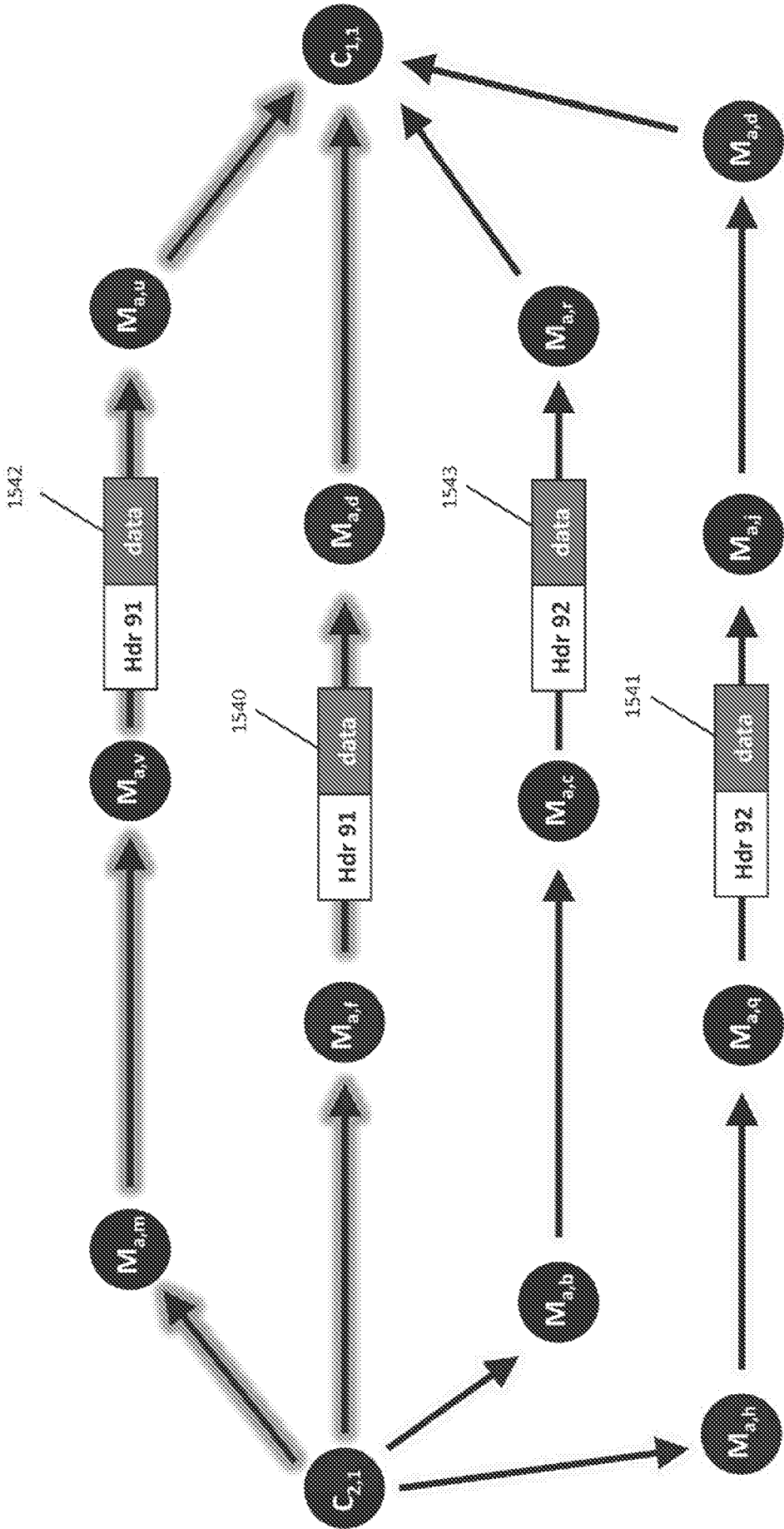


Figure 134

Parameter	OTT	VPN	PTP	SDNP
Source Addr	Visible	Encrypted	Visible	None (NAT)
Destination Addr	Visible	Encrypted	Visible	None (NAT)
Encrypted Payload	Static (Optional)	Static (Optional)	Static (Optional)	Dynamic
Scrambled Payload	No	No	No	Dynamic
Meshed Routing	No	No	No	Dynamic
Routing Nodes	Internet Servers	Dedicated Servers	Users	Dedicated Servers
Delay	Uncontrolled	Single Route	Minimal Control	Dynamic Minimum

Figure 135