

A History of Digital Architecture

The technology we rely on has been on a remarkable journey. And from the past, to the present and into the future, it's bewildering and astonishing and thrilling, all at once. It all starts here...

Corporate computing

1943

"I think there is a world market for maybe five computers"
- Thomas Watson, IBM. Computing machines fill entire rooms.

1947

Enterprise IT + Telecoms

1947 Bell Labs proposes a cellular radio telephone network

1950 Telcos develop digital transmission of data

"I think there is a world market for maybe five computers"
Thomas Watson, IBM. Computing machines fill entire rooms.

Single-user computers begin to emerge 1956

1960

Computers run business applications without specialist hardware

1958 The T1 standard emerges for digital transmission

1961 'Material Requirements Planning' (MRP) software is created
1962 SDC coins the term 'database'

Computers run business applications without specialist hardware 1960

IBM System/360 mainframe introduced 1964

The internet

1969

1970

1974

Telenet, a commercial version of ARPANET, launches

Cloud computing

1970 The concept of 'Virtual Machines' is invented
1970 Edgar F Codd outlines relational databases as a concept
1971 ALOHAnet connects Hawaiian islands using a UHF wireless packet network
1972 SAP is founded in Germany
1973 Bob Metcalfe describes an Ethernet network for workstations and printers
1973 VoIP invented
1974 Leased lines connect IBM mainframes, terminals and remote sites
1975 Coding convention that leads to Y2K bug is adopted

ARPANET, the world's first packet-switched Wide Area Network goes live 1969

The basis of Intel's x86 architecture is established 1970

First email sent across ARPANET 1971

IBM's SCAMP PC competes with mainframe performance 1971

Xerox demonstrates the first GUI 1971

Telenet, a commercial version of ARPANET, launches 1974

The Altair 8800 heralds the 'personal computer revolution'

Xerox files patent for Ethernet technologies 1975

Steve Jobs and Steve Wozniak produce the Apple I 1976

Commodore PET, Apple II and TRS-80 are launched 1977

Microsoft contracts with IBM to create MSDOS 1980

Epson launches the first laptop; Sony releases 3½ inch floppies 1981

TCP/IP becomes a standard protocol 1982

The IoT emerges with a connected Coke machine 1982

Time crowns computers the 'Machine of the Year' 1982

IPv4 deployed to ARPANET 1983

.com addresses become available – alongside .edu, .org and .net 1984

Windows launches; C++ is published 1985

The internet has 20,000 hosts 1987

Microsoft contracts with IBM to create MSDOS

1983

Ethernet is standardised as IEEE 802.3; modem data rates hit 1200 bit/s

1977 ARPANET uses a cloud symbol for networks of connected computers

1977 Oracle is founded

1978 Oracle implements first SQL Relational Database Management System

1979 USENET transfers data through telephone modems

1979 Kevin Mitnick hacks into DEC's network

1980 MRP expands capabilities into finance

1980 Dial-up available to universities

1983 Ethernet is standardised as IEEE 802.3; modem data rates hit 1200 bit/s

1984 The Y2K bug identified; the UK's first cable company launches in Swindon

1985 Cellnet launches mobile phones in the UK

1987 PeopleSoft is founded; Cisco sells its first router

1988 DEC publishes the first paper on firewalls

1989 Ethernet wins dominance in its markets

1990 MRP gains a GUI and client/server architecture;

1990 Gartner popularises term 'ERP'

1991 NCR and AT&T invent WiFi, via the foundations of the 802.11 protocol

1991 UK cable companies licensed to offer telephony services as well as TV

Linux is released 1990

Fewer than 0.01% of jobs are in data science (LinkedIn Analytics) 1990

Sir Tim Berners Lee defines HTML to help create the World Wide Web 1990

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1990

1998

Google is founded, incorporated and indexes 60m web pages

1994 Wired uses the term 'Cloud' to describe virtual services

1994 The first application layer firewall is released

1994 Vocaltec, a commercial VoIP application, is launched

1996 Compaq uses the term 'Cloud Computing'

1996 Microsoft develops P2P Tunnelling Protocol, precursor to modern VPNs

1996 Oracle moves towards a web-enabled architecture

1997 The British Standards Institute defines 'Year 2000 Conformity Requirements' as Y2K alarm sets in

1998 Modem data rates hit 56 kbit/s

1999 NTL buys Cable & Wireless' UK cable operations

1999 Salesforce.com launches SAAS CRM and other ERP applications with APIs

2000 Email worm 'ILOVEYOU' infects 50m computers in 10 days; Y2K bug passes; broadband arrives with Telewest offering speeds of 512Kbps

PCs declared dominant in the workplace as 64-bit processors are born 1992

Dial-up internet becomes publicly available 1992

IBM loses \$8bn in a quarter; the first DEF CON hacking conference 1993

Mosaic browser released, helping popularise internet use 1994

Yahoo! goes live 1994

Sun announces Java; Windows 95 launches; Netscape releases JavaScript 1995

Amazon.com, eBay and Craigslist launch 1995

Nokia releases the 9000, its first smartphone 1996

Google is founded and indexes 60m web pages 1998

Linux is used by 10m people; the term 'Internet of Things' is coined 1999

WAP launches on phones as the first 'mobile internet' 1999

Blackberry launches the 957 2000

Netflix offers itself to Blockbuster for \$50m 2000

The 'Agile Manifesto' is published; Windows XP is released 2001

The term 'Consumerisation of IT' is coined 2001

The Digital Age begins, as digital storage capacity exceeds analogue 2002

HP concludes corporate data centres use an average of 10% to 35% of processing capacity 2002

iTunes goes live in the UK, America starts using Facebook 2004

IBM sells PC business to Lenovo for \$1.75bn 2004

MIT declares 'the end of corporate computing' 2005

In-house data centres shutting; the Age of Cloud Computing begins 2005

Google indexes more than 8 billion pages; 2005

16% of the world's 6.5 billion population are internet users 2005

The first YouTube video is uploaded 2005

The iPhone launches 2007

Google's Chrome and Android are released 2008

The term BYOD enters common use 2009

The iPhone launches

2007

Bitcoin is launched

2009

2010

Digital platforms

Apple iPad launches 2010

Jobs in analytics and data science grow x10 in 20 yrs (LinkedIn Analytics) 2010

Apple introduces virtual assistant, Siri. Google, Amazon and Microsoft will follow 2011

Ecommerce sales top \$1 trillion 2012

NASA pulls the plug on its final mainframe; Google Compute Engine released 2012

Tablet sales (\$219.9m) overtake laptops (\$180.9m) (Statistica.com) 2013

Blackberry announces \$1bn loss and lays off 4,500 staff 2013

Blockbuster goes bankrupt 2013

Data centres numbers peak at 8.55 million (IDC) 2015

47% of the world's 7.3 billion population are internet users 2016

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Oracle hits record \$200bn market cap after 66% growth in cloud revenues 2017

Facebook has 2 billion monthly users 2017

Data centre numbers fall to 8.4 million due to cloud consolidation 2017

Virgin Media Business launches Voom Fibre, 350Mbps of ultrafast broadband 2017

8.4bn connected devices in use worldwide, with 20.4bn predicted by 2020 (Gartner) 2017

2002 AWS is launched

2003 60% of IT staffing budget spent on support and maintenance (Gartner)

2004 Oracle buys PeopleSoft

2005 2Mbps broadband launched; Telewest and NTL merge

2006 AWS introduces 'Elastic Compute Cloud', signs Dropbox and Pinterest;

2006 NTL, Telewest and Virgin Mobile merge to create Virgin Media

2008 Microsoft announces Azure; the fundamentals of blockchain established

2008 350 million Ethernet switch ports pushed out into the world (Gartner)

2009 Bitcoin is launched

2009 Desktop apps go into the cloud

2009 Google launches Google Apps for enterprises

2010 Microsoft launches Office 365; Rackspace and NASA launch OpenStack

2010 AWS revenues reach \$1.5bn

2010 HP acquires 3Com

2010 Virgin Media Business launches 10Gbps services

2011 IBM announces SmartCloud

2012 Oracle Cloud is announced

2013 Slack is launched

2013 The term 'Post-modern ERP' is coined by Gartner

2013 Liberty Global completes acquisition of Virgin Media

2014 The phrase Blockchain 2.0 is coined; AWS operates 1.4m servers

2014 Microsoft Azure Machine Learning goes into public preview

2015 AWS announces 1m active users a month

2015 Slack is the first cloud app to cross from business to personal use (FT)

2016 Virgin Media Business launches Cloud Connect

2017 Spending on cloud infrastructure set to increase by 18.7% to reach \$44.2bn

2017 AWS revenue grows 42% to \$4.10bn

2017 42% of CEOs have begun digital transformation (Gartner)

2017 15% of new enterprise apps are cloud native (Capgemini)

2017 Azure offers 600 services

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