
cisco Live!
ALL IN

The bridge to possible

Growing Your Technical Career –

Looking Forward and Lessons Learned

Peter Jones
Distinguished Engineer
@petergjones

Dave Zacks
Distinguished Engineer
@DaveZacks

BRKGEN-2002

#HighBitRate

Cisco Webex App

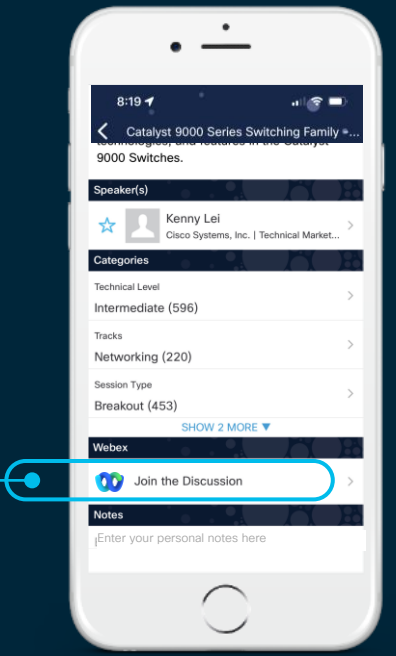
Questions?

Use Cisco Webex App to chat
with the speaker after the session

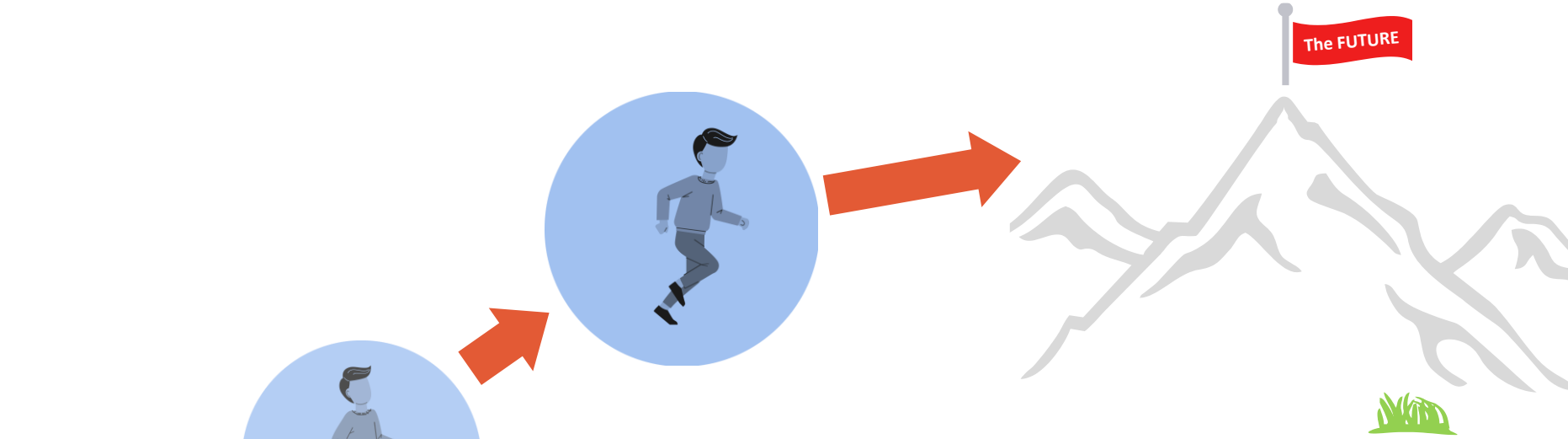
How

1. Find this session in the Cisco Live Mobile App
2. Click “Join the Discussion”
3. Install the Webex App or go directly to the Webex space
4. Enter messages/questions in the Webex space

Webex spaces will be moderated by the speaker until June 17, 2022.



https://ciscolive.ciscoevents.com/ciscolivebot/#BRKGEN-2002



PURPOSE of this session …

Provide an overview of our career voyages,
from the beginnings to today … and beyond

Explain why that evolution is relevant to you,
and provide possible guidance
for your own career journey

What this session is **NOT**

... a technical deep dive
(although we can do that on a lot of topics ☺)

... a review of which certification to get next

Instead, this is a **review of our technical journeys**, and a **set of lessons learned** ...
sometimes the hard way ☺

By Way of Introduction …

I am a **Distinguished Engineer** in the CX team,
and have been with Cisco for 22 years.

I work primarily with large, high-performance Enterprise network architectures, designs, and systems. I have over 30 years of experience with designing, implementing, and supporting solutions with many diverse network technologies.

I have a strong background in, and focus on, customer requirements, and integrating these into the products and solutions Cisco builds.
I have a special interest in **Flexible Hardware, Fabrics, Assurance and ML/AI.**

Dave Zacks
Distinguished Engineer
dzacks@cisco.com @DaveZacks

By Way of Introduction …

I am a **Distinguished Engineer** in the DC/EN/IoT Hardware team, with Cisco since 2005.

I work on System Architecture for the switching, routing, wireless and IE platforms, especially Catalyst 3850/3650/9K and the UADP ASIC family.

I am heavily involved in Ethernet standardization in IEEE 802.3 (e.g., 802.3bz, 802.3cc, 802.3cg), as Ethernet Alliance chair, and former NBASE-T Alliance chair.

I am passionate about **Network Evolution** and **Adoptable Technology.**

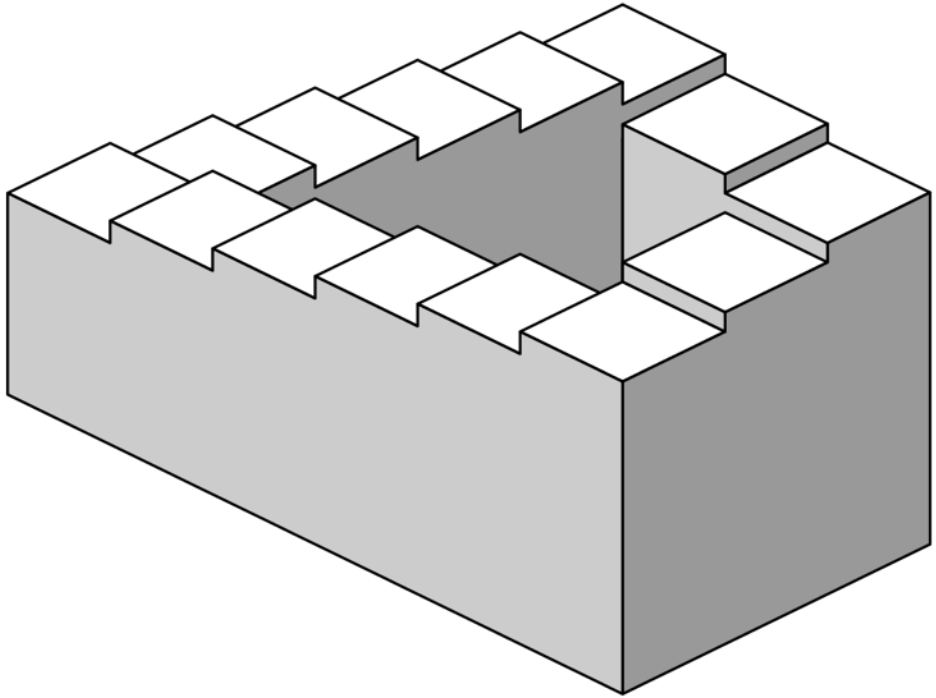
Peter Jones
Distinguished Engineer
petejone@cisco.com @petergjones

Progression of a Technical Career

The Journey

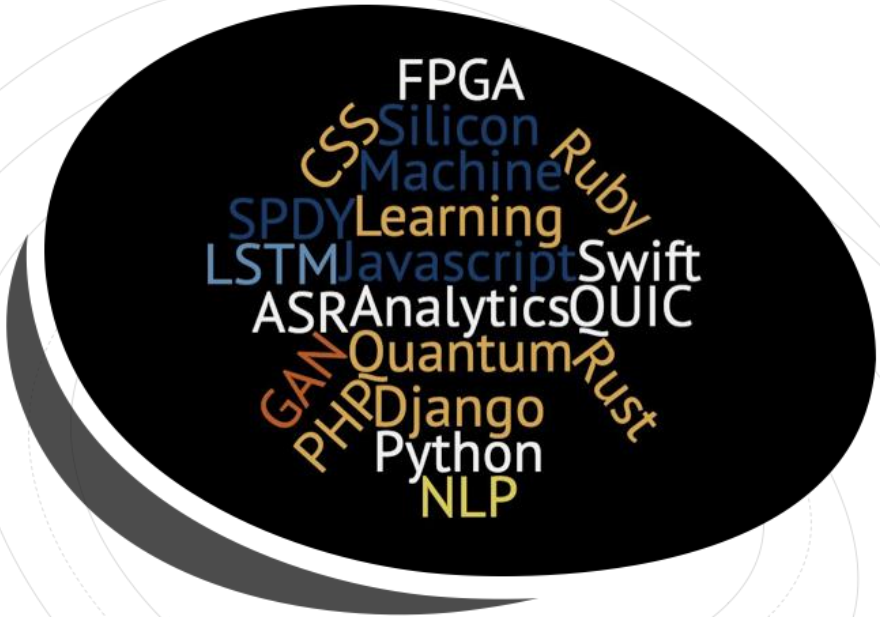
Steps Along the Way

or perhaps more accurately ...



https://en.wikipedia.org/wiki/Penrose_stairs

The technologies change …



THE PROGRESSION IS THE SAME

Dave's Journey

(so far)

What I do at Cisco

Dave, DE

Routing
Switching
Wireless
IoT

If it moves a packet from A to B,
I care about it ☺

Large-scale network design
Complex troubleshooting
Visibility and Analytics

Design for failure / fault tolerance
End-to-end observability
Machine Learning / AI

Drive innovation

Create “the next big thing” 1+1+1 = 5

We all start somewhere …

LEARNING It

Used my first computer in 1977

SOL-20 by Processor Technology

Intel 8080 @ 2Mhz clock
S-100 bus
64K of DRAM
8-inch floppy disks
Ran **CP/M** operating system

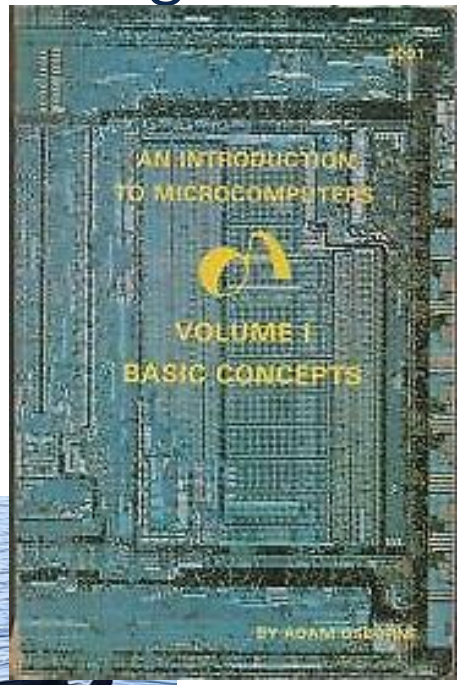
https://en.wikipedia.org/wiki/Sol-20

Taught myself hardware and programming …

TTL and binary logic

AND gates, OR gates, NAND gates …

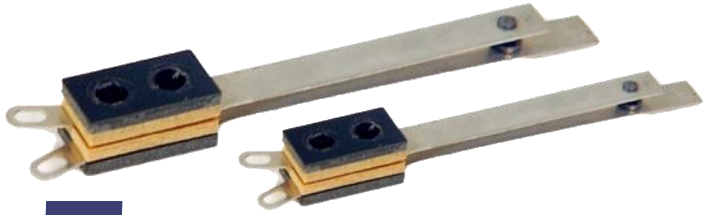
Registers, memory, data buses, addressing,
I/O, DMA, real-time logic,
assembly language …



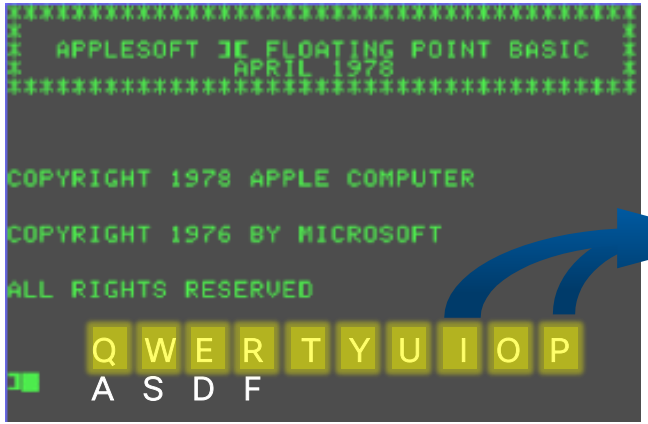
While other kids
were doing this …

… I was
doing this … ☺

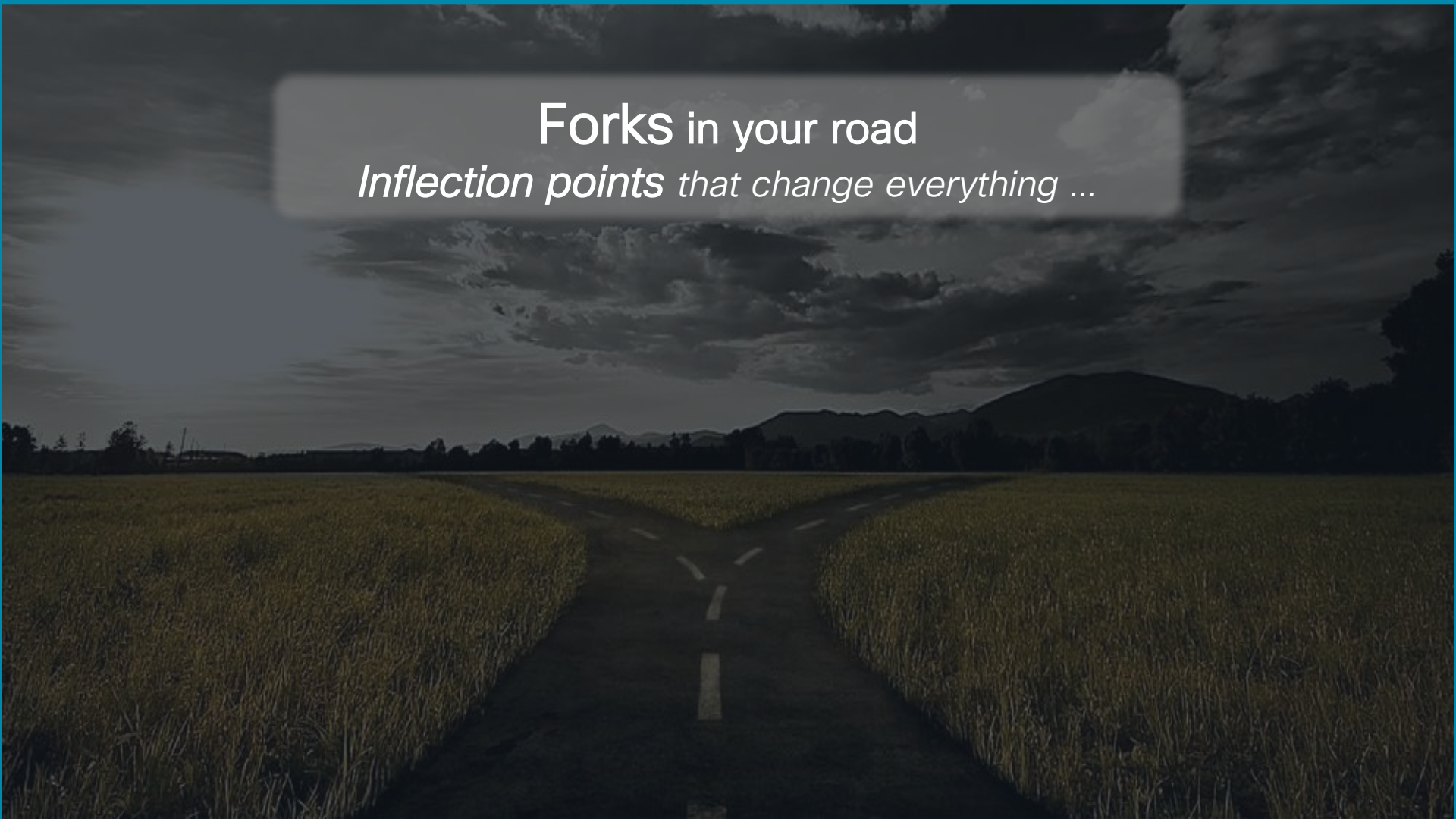
First Job



Make computer accessible
for physically-challenged kids
(quadriplegic)



P…I…


Forks in your road
Inflection points that change everything ...

My first computer – 1979

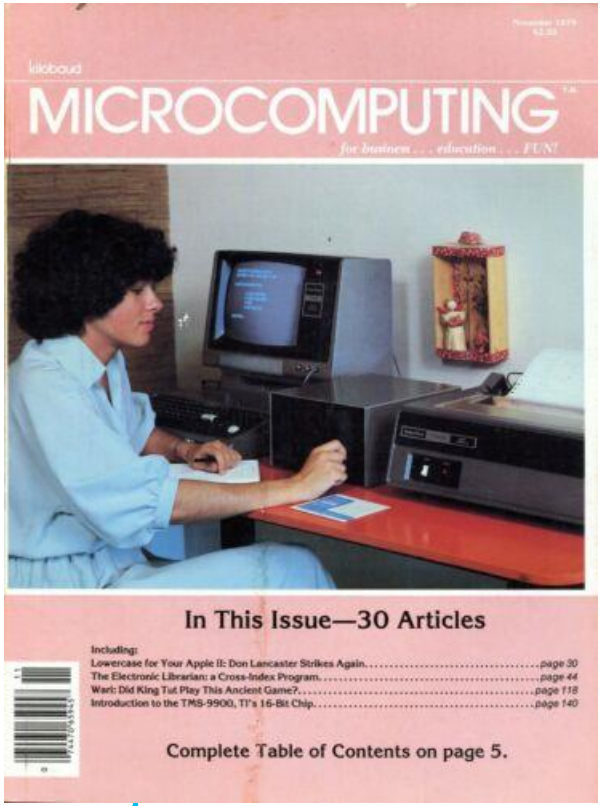
Apple][+

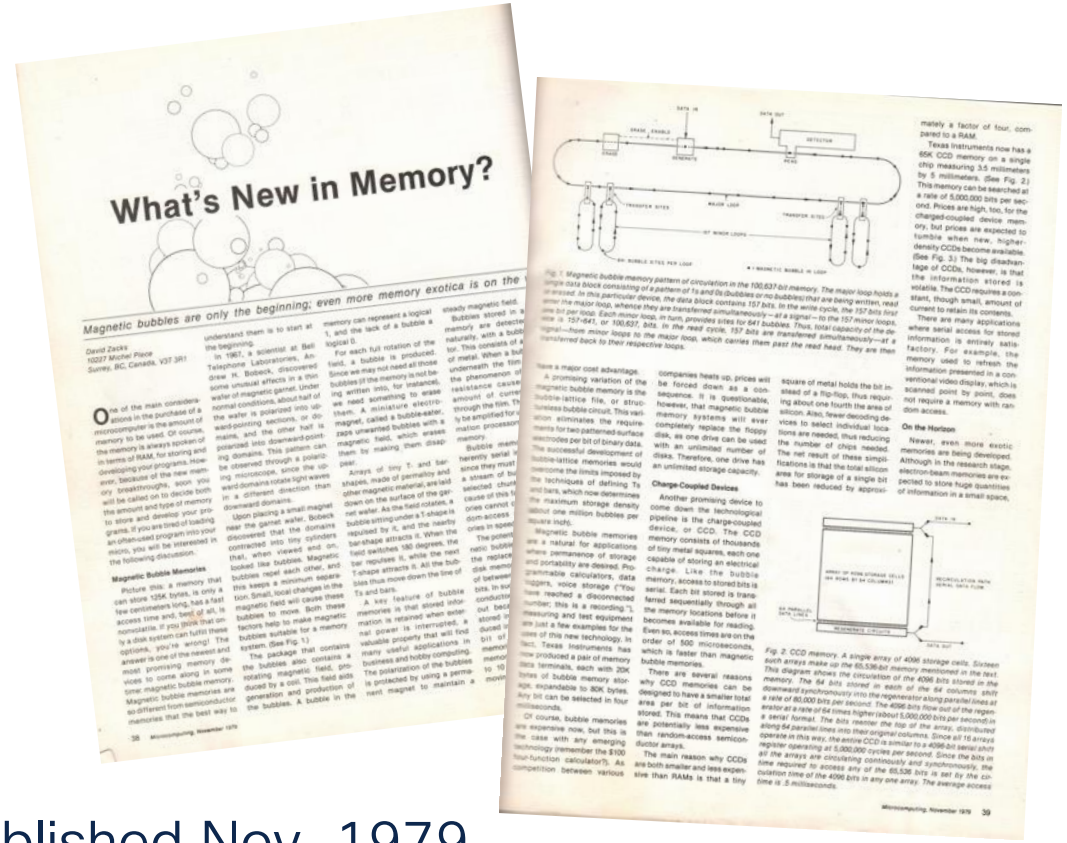
Motorola 6502 @ 1Mhz clock
48K of DRAM
2 x 5.25-inch floppy disks
Green screen monitor

Have a computer of my own ... but no software (and no $$$ for software)


```
0800:           2          ORG  $800
0800:
0800:           4 ********************************************************
0800:           5 *                                                      *
0800:           6 * INIT: THIS PROGRAM WILL ALLOW ITS USER TO INITIALIZE A *
0800:           7 *       SINGLE TRACK WITH ANY VOLUME NUMBER DESIRED.   *
0800:           8 *                                                      *
0800:           9 * INPUT: $02 = TRACK TO BE INITIALIZED                 *
0800:          10 *                                                      *
0800:          11 *        $03 = VOLUME NUMBER                           *
0800:          12 *                                                      *
0800:          13 * ENTRY POINT: $800                                    *
0800:          14 *                                                      *
0800:          15 * PROGRAMMER: PIETER LECHNER 2/19/81                   *
0800:          16 *                                                      *
0800:          17 ********************************************************
0800:
0800:          19 *        ZPAGE DEFINITIONS
0000:          21 PTR      EQU  $0          WORK POINTER
0002:          22 TRACK    EQU  $2          TRACK TO BE READ/WRITTEN
0003:          23 VOLUME   EQU  $3          VOLUME NUMBER
002D:          24 SECFND   EQU  $2D         SECTOR FOUND BY RDADR16
003E:          25 AA       EQU  $3E         ZPAGE CONSTANT FOR TIMING
0041:          26 VOL      EQU  $41         VOLUME USED BY WRADR16
0044:          27 TRK      EQU  $44         TRACK USED BY WRADR16
0045:          28 SYNCNT   EQU  $45         SYNC COUNT USED BY DSKF2
0048:          29 PREG     EQU  $48         MONITOR P REGISTER SAVEAREA
0087:          30 BELL     EQU  $87         ASCII BELL
0800:          32 *        OTHER ADDRESSES
03E3:          34 LOCRPL   EQU  $3E3        LOCATE RWTS PARMLIST SUBRTN
03D9:          35 RWTS     EQU  $3D9        RWTS SUBROUTINE
0578:          36 RTRYCNT  EQU  $578        RETRY COUNT FOR DSKF2
BB00:          37 NBUF1    EQU  $BB00       PRIMARY SECTOR BUFFER
BC00:          38 NBUF2    EQU  $BC00       SECONDARY SECTOR BUFFER
B8DC:          39 READ16   EQU  $B8DC       READ DATA FIELD ROUTINE
B944:          40 RDADR16  EQU  $B944       READ ADDRESS FIELD ROUTINE
BF0D:          41 DSKF2    EQU  $BF0D       FORMAT ONE TRACK ROUTINE
FDED:          42 COUT     EQU  $FDED       MONITOR CHARACTER OUTPUT
FDDA:          43 PRBYTE   EQU  $FDDA       MONITOR HEX OUTPUT
0800:          45 *        DISK I/O SELECTS
C080:          47 DRVSM0   EQU  $C080       STEP MOTOR POSITIONS
C081:          48 DRVSM1   EQU  $C081
C082:          49 DRVSM2   EQU  $C082
C083:          50 DRVSM3   EQU  $C083
C084:          51 DRVSM4   EQU  $C084
C085:          52 DRVSM5   EQU  $C085
C086:          53 DRVSM6   EQU  $C086
C087:          54 DRVSM7   EQU  $C087
C088:          55 DRVOFF   EQU  $C088       TURN DRIVE OFF AFTER 6 REVS
C089:          56 DRVON    EQU  $C089       TURN DRIVE ON
C08A:          57 DRVSL1   EQU  $C08A       SELECT DRIVE 1
C08B:          58 DRVSL2   EQU  $C08B       SELECT DRIVE 2
C08C:          59 DRVRD    EQU  $C08C       READ DATA LATCH
C08D:          60 DRVWR    EQU  $C08D       WRITE DATA LATCH
C08E:          61 DRVRDM   EQU  $C08E       SET READ MODE
C08F:          62 DRVWRM   EQU  $C08F       SET WRITE MODE
0800:          64 *        RWTS PARMLIST DEFINITION
0000:          66          DSECT
0000:          67 RPLIOB   DS   1           IOB TYPE ($01)
0001:          68 RPLSLT   DS   1           SLOT*16
0002:          69 RPLDRV   DS   1           DRIVE
0003:          70 RPLVOL   DS   1           VOLUME
0004:          71 RPLTRK   DS   1           TRACK
0005:          72 RPLSEC   DS   1           SECTOR
0006:          73 RPLDCT   DS   2           ADDRESS OF DCT
0008:          74 RPLBUF   DS   2           ADDRESS OF BUFFER
000A:          75 RPLSI2   DS   2           SECTOR SIZE
```

Started writing ...





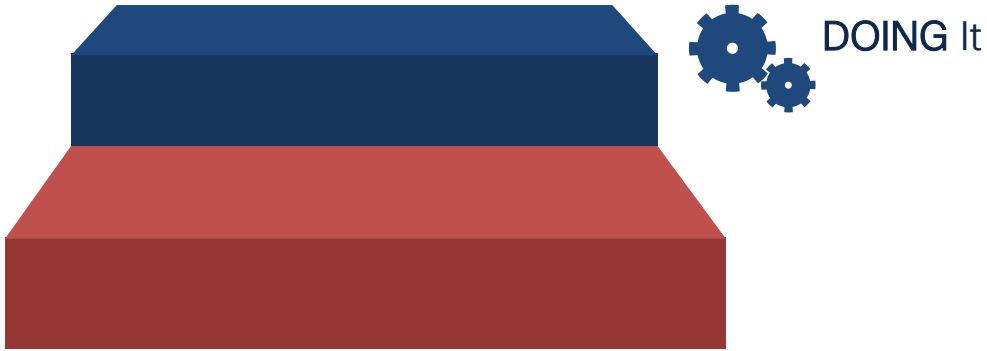
Published Nov, 1979

Got paid $70!!

Started working in a computer store …

Hardware repair
Software installation
Troubleshooting
Upgrades
…

Still have my original Apple][+ motherboard …



Along came these things called Modems ...

1200 baud
2400 baud
4800 baud
9600 baud
19.2K
56K

Dial-up ...

Bulletin Board Systems

Circa 1981

And then the first stirrings of Networking ...

Circuit Standards: *ISDN*, *T1*, *T3*

LAN standards work undertaken in 1980
by IEEE, as Project 802

So-called because it started in Feb, 1980 ☺

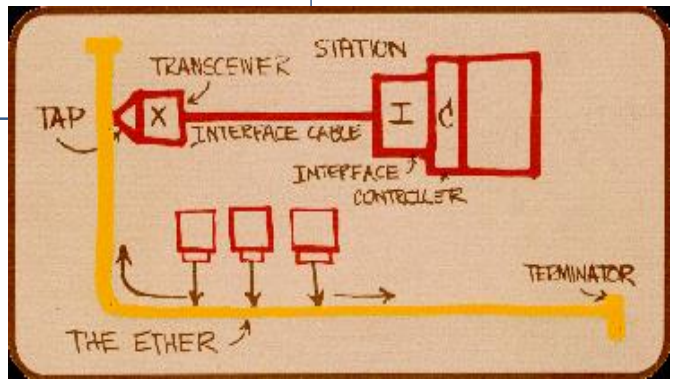
LAN Standards: *Token Ring*, *Token Bus*, *AppleTalk*, *Phonenet*, *Ethernet ...*

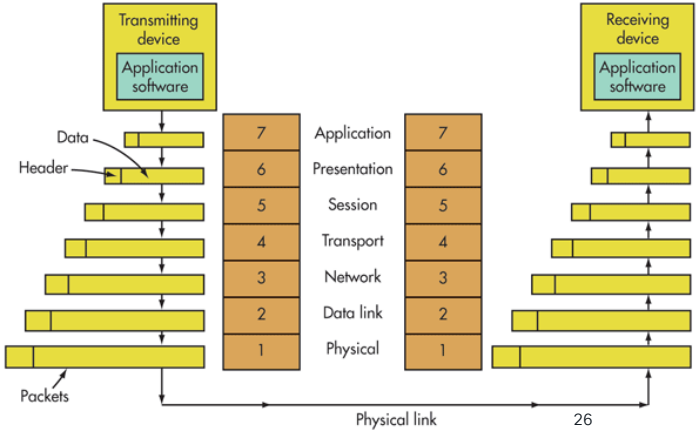
WAN Standards: *Frame Relay*, *X.25*

Bridging

Routing

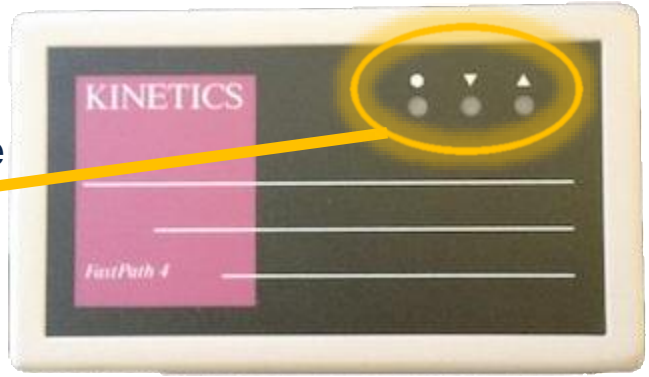
Interconnectivity Standards





My First Router (circa 1985)

Sophisticated user interface
(power & packets in/out)



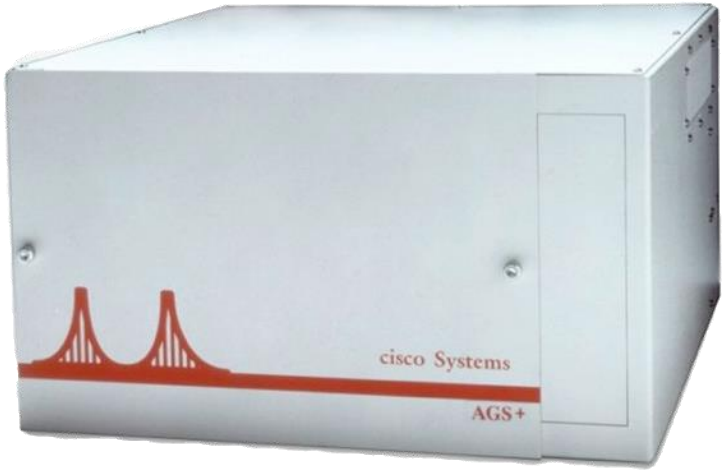
Kinetics FastPath 4

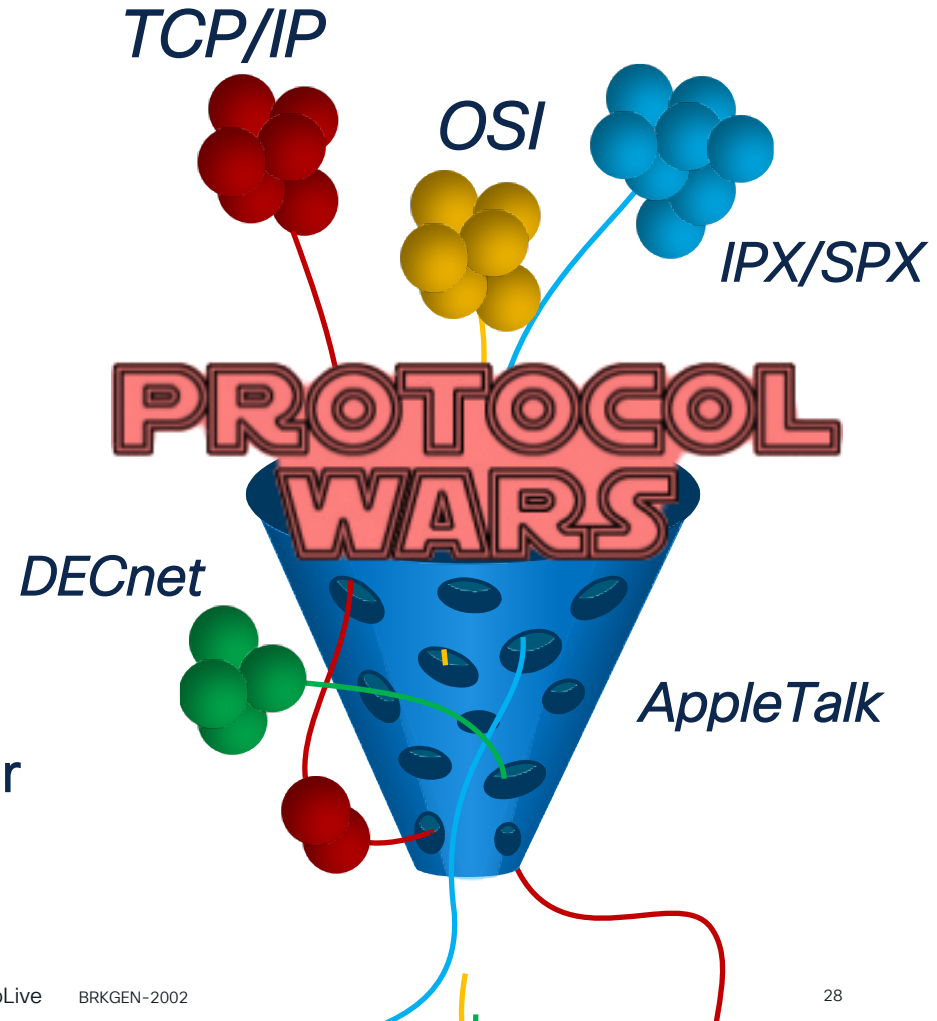
Ted
Hulick,
PE

10Mbps Ethernet
(thinwire coax and thickwire AUI)

230Kbps AppleTalk
(twisted-pair)

At the same time as ...

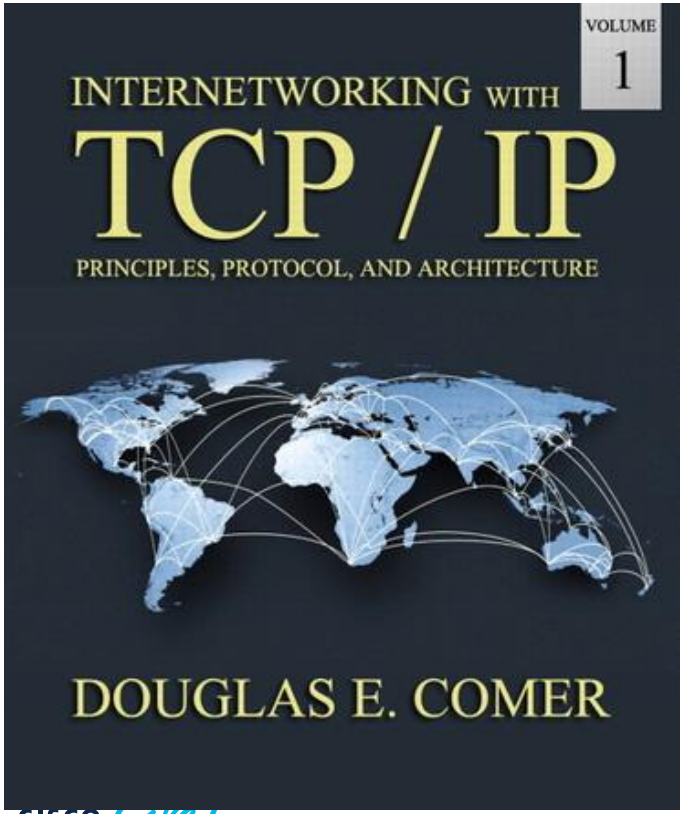




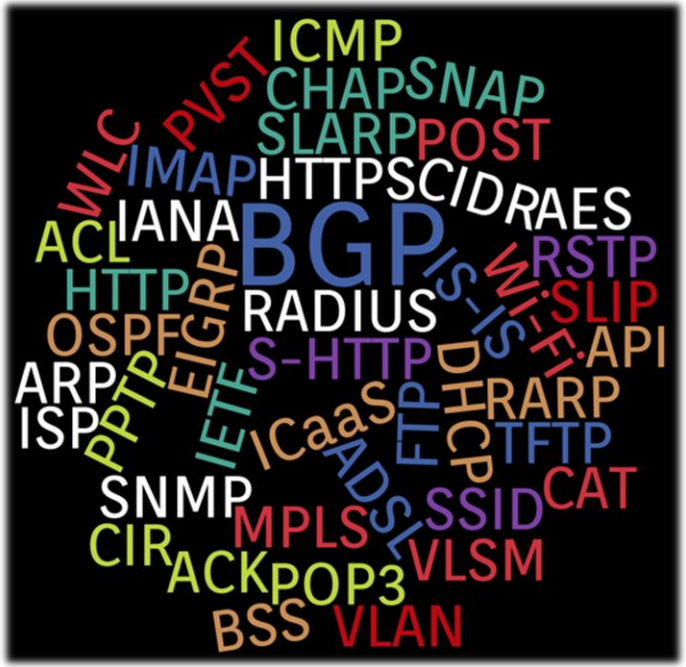
Birth of the **Multi-Protocol Router**

Birth of **Cisco**

Eventually, TCP/IP won …



… and created a whole plethora of spin-off and supporting protocols, organizations, and capabilities …



First Direct Access to the Internet

9600 baud dial-up access via UUCP through a local University

SO Awesome!

Full routed access to everything the net had to offer – email, FTP, Gopher … and eventually HTTP

The 90s – Everyone Needs Networking!

Airports
Health care
Hospitals
Entertainment
Film
Power generation
Universities
K-12
Manufacturing
Media
Ports
Stocks
Finance

The 90s – Everyone Needs Networking!

Power Utility

complete LAN installation across 100+ sites, microwave-based WAN, unique requirements …

Airports
Health care
Hospitals
Entertainment
Media
Power generation

The 90s – Everyone Needs Networking!

Film and Media School

High-performance LAN installation, MAN links

"The network **is** the school"

Airports
Health care
Hospitals
Entertainment
Media
Power generation
Universities
K-12

COMPANY NEWS; Cisco to Buy Major Maker Of Switches

Cisco Systems Inc., a leading computer networking company, said today that it would acquire Kalpana, a privately held company, in a stock swap valued at about $204 million.

And Then One Day …

Cisco Networkers came to Vancouver …

"Every day people hand me **big broken networks** – and **I get to be the person that fixes them**"

Don Slice

Lead Escalation Engineer in TAC for **EIGRP**

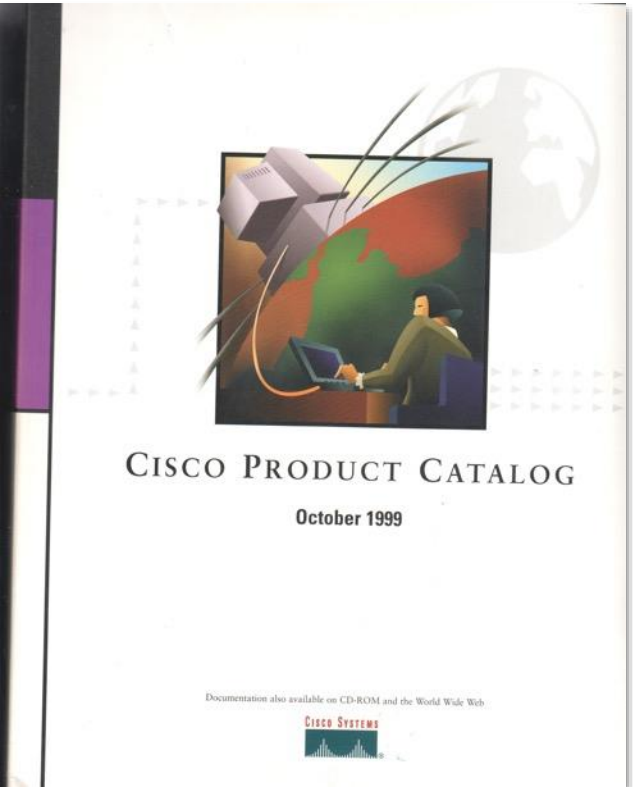
cisco

Networkers

Enhanced **I**nterior **G**ateway **R**outing **P**rotocol

PLANNING It

Joined Cisco as an SE (Systems Engineer)



Specialized in **Enterprise** networks

Mapped onto
Public Sector accounts

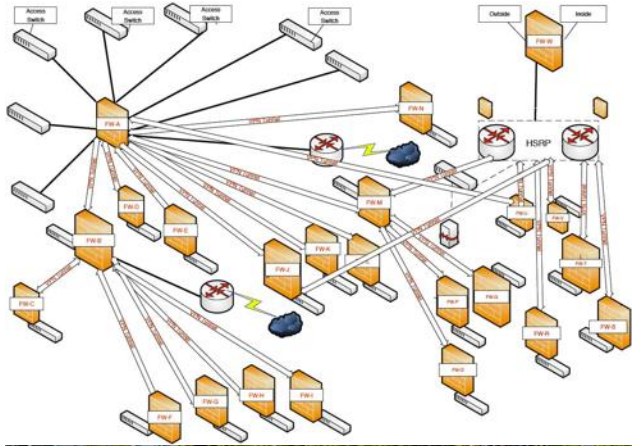
CISCO CERTIFIED CCIE Routing & Switching

#
8887

Partnership between AM and SE

Mike
Macdonald,
AM

Sample Project – Huge Campus MPLS VPN Design



Complex IPsec VPN overlay design

Difficult to monitor

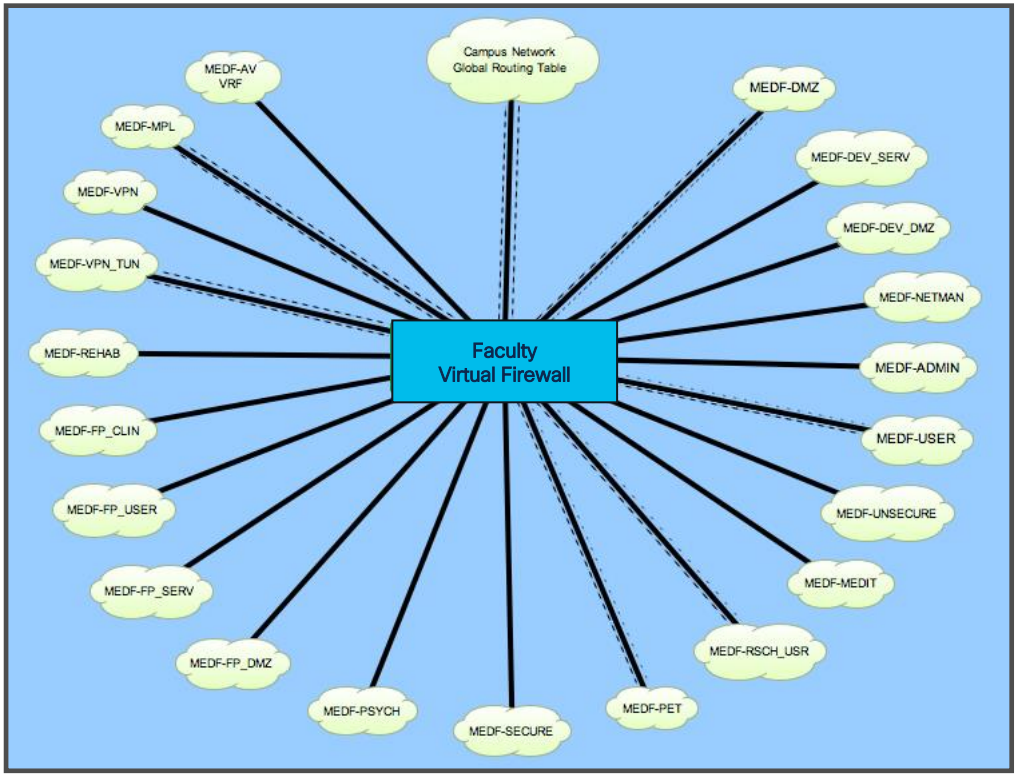
Difficult to troubleshoot

Multiple single points of failure

Not scalable to 10Gbps+

The University of British Columbia

Sample Project – Huge Campus MPLS VPN Design



Fully virtualized network
1000+ VRFs
100+ virtual firewalls
Network planning:
two-day on-site, intensive
Three-year rollout
~5-10 VRFs / week
Error-free deployment

Much simpler,
more structured design

Easier to scale and troubleshoot

Much higher performance –
10Gbps+

Promoted to TSA – Technical Solutions Architect

Brand-new job role @ the time

Customer-facing, but does not own accounts

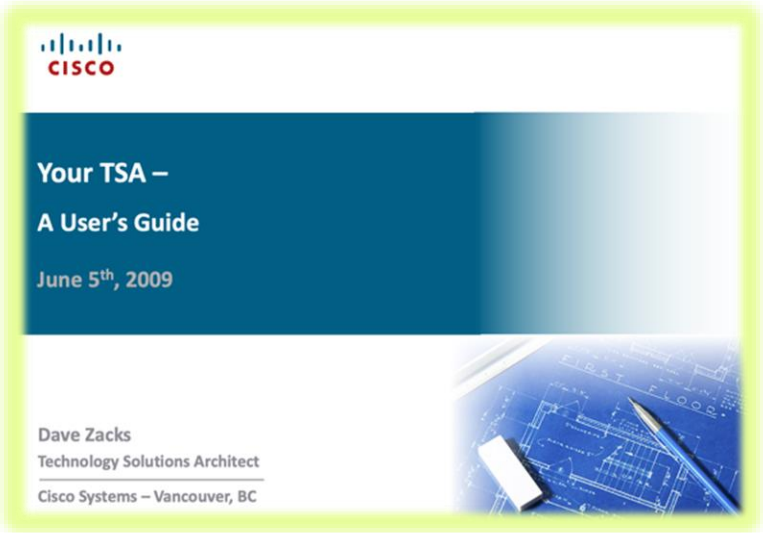
My focus: Infrastructure (Routing, Switching, Wireless)

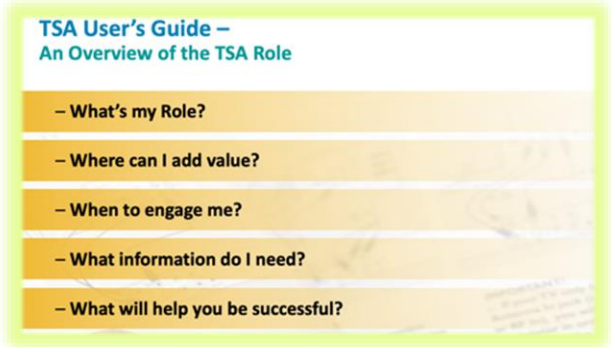
The Kicker

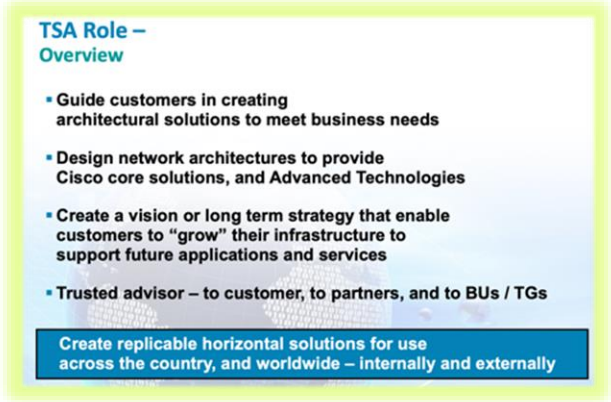
No one knew **how or when** to engage their TSA! ☺

You never want a serious crisis to go to waste. And what I mean by that is **an opportunity to do things** that you think you could not do before.

Promoted to TSA – Technical Solutions Architect







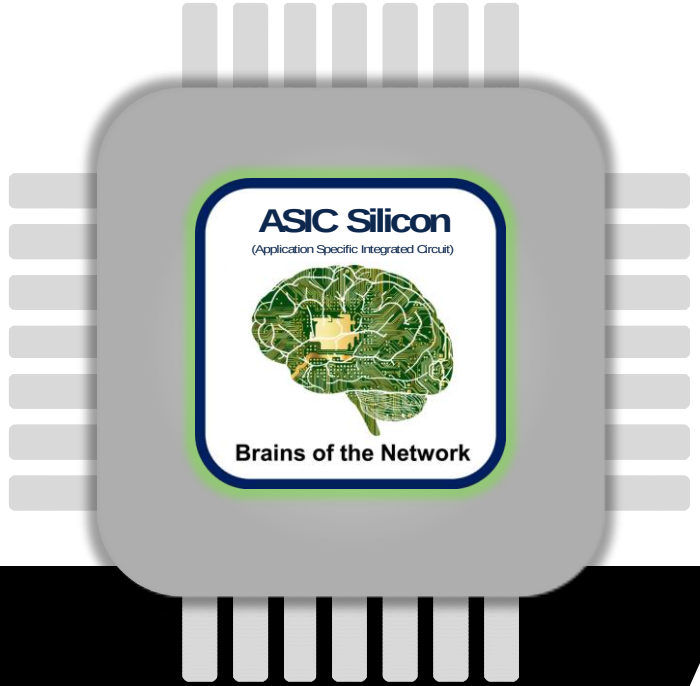
Feeding Back Internally –

Customer Input into Product Design

Taking what we learn in the Field from large, complex customer deployments, and **feeding that back** to the BUs and Product / Solution teams

Influencing the next generation of product and solution development

Partnered with my friend (and future boss)
Mark Montanez, DE



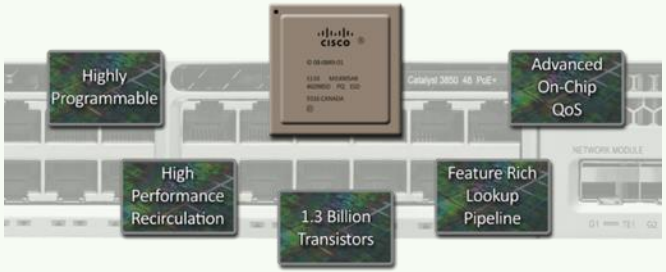
Next-Gen Product Development – Programmable ASICs

High Density
of smart people
this is where I first met Peter Jones, Mel Tsai, …

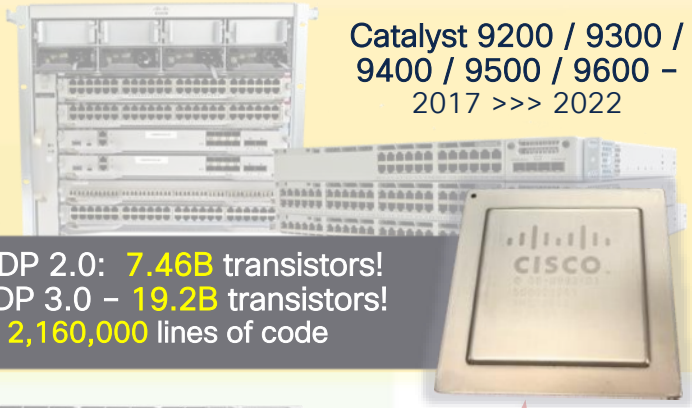
ASIC

Application Specific Integrated Circuit

ASIC Evolution – Over Time

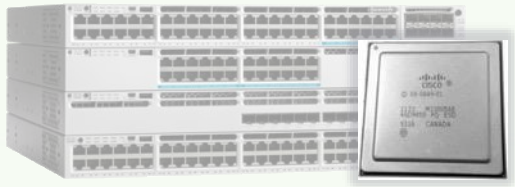


UNIFIED ACCESS DATA PLANE (UADP)

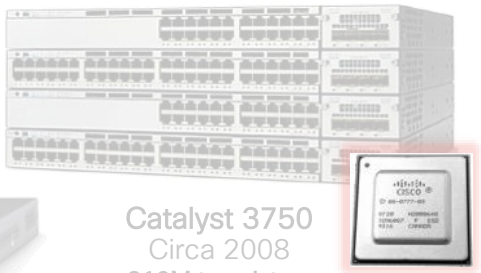


Catalyst 9200 / 9300 / 9400 / 9500 / 9600 – 2017 >>> 2022

UADP 2.0: 7.46B transistors!
UADP 3.0 – 19.2B transistors!
2,160,000 lines of code



Catalyst 3850
Circa 2013
UADP 1.0 – 1.3B transistors
UADP 1.1 – 3.0B transistors
1,490,000 lines of code



Catalyst 3750
Circa 2008
210M transistors
86,220 lines of code

Catalyst 3550
Circa 2003
60M transistors
47,226 lines of code

All Cisco-developed silicon

Driving the benefits of vertical integration – Hardware and software working together!

Just like some other famous examples ...

Promoted to Distinguished SE

Achieved DSE rank in early 2013

Gated position – review board

Less than 0.5% of SE worldwide

QUALIFICATIONS – Meeting and Exceeding the Criteria of a DSE

Dave is a Technical Solutions Architect with Cisco Systems Canada, based out of Vancouver, and has been with Cisco for over 13 years.

This document summarizes some of Dave's key accomplishments and contributions over that time period.

Background: Dave has been involved with networking since 1985, and has been involved in the computer and data communications industry since 1979.

Work

Give Back

Innovate

Invent

TEACHING It

Presenting @ Cisco Live ...

Distinguished Speaker
Hall of Fame <what's next>? ☺
>15 awards

Distinguished Speaker
Hall of Fame Elite
10 awards

Distinguished Speaker
Hall of Fame
5 awards

2020 ...
2019
2018
2017
2016
2015
2014
2013
2011

Distinguished Speaker
Top 10% @ show, as rated by attendees

Tech Field Day, Cisco TV, …

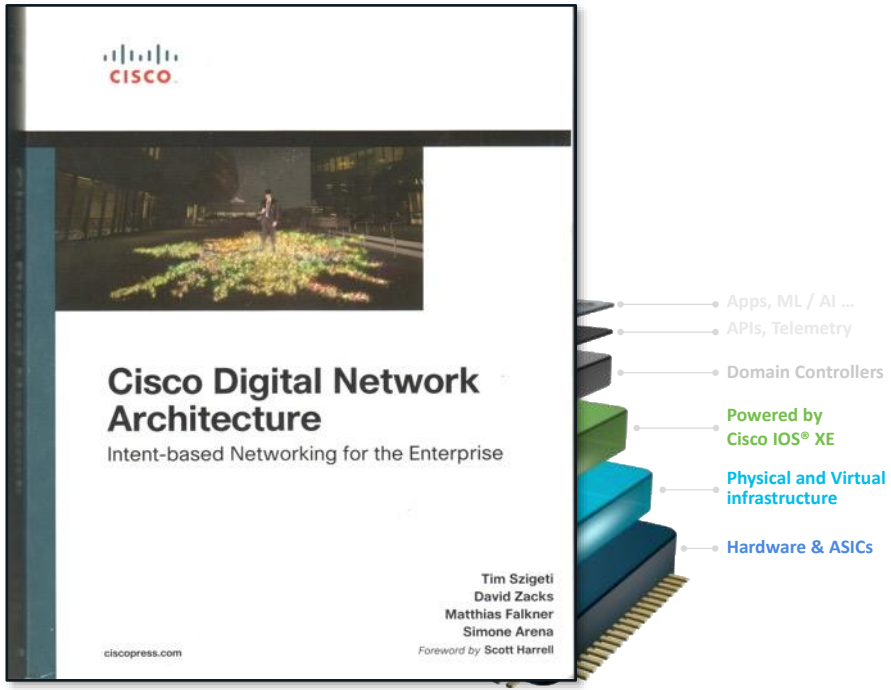
Tech Field Day
www.techfieldday.com

- Cisco Analytics and Assurance
- Cisco Enterprise ASICs Discussion with Dave Zacks
- Cisco Exploring Cisco's Latest Innovations with Machine Learning and AI
- Cisco Innovations in Silicon, Why Hardware Matters in a Software Defined World
- Cisco IOS-XE Evolution with Dave Zacks
- Cisco Network Innovation – Cisco SD-Access, ETA, Wireless
- Cisco Programmable ASICs and The Importance of Flexible Silicon with Dave Zacks

https://techfieldday.com/personnel/dave-zacks/

How to Stress a Friendship!

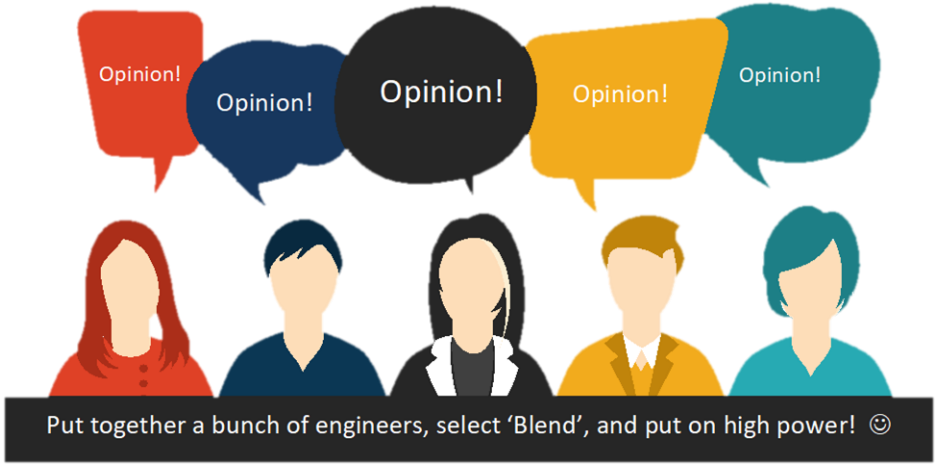
Write a book together! ☺



Writing in a Hurry!

Book Sprints

http://cs.co/cat9000book
http://cs.co/sdabook
http://cs.co/programmabilitybook
http://cs.co/wirelessbook
http://cs.co/assurancebook

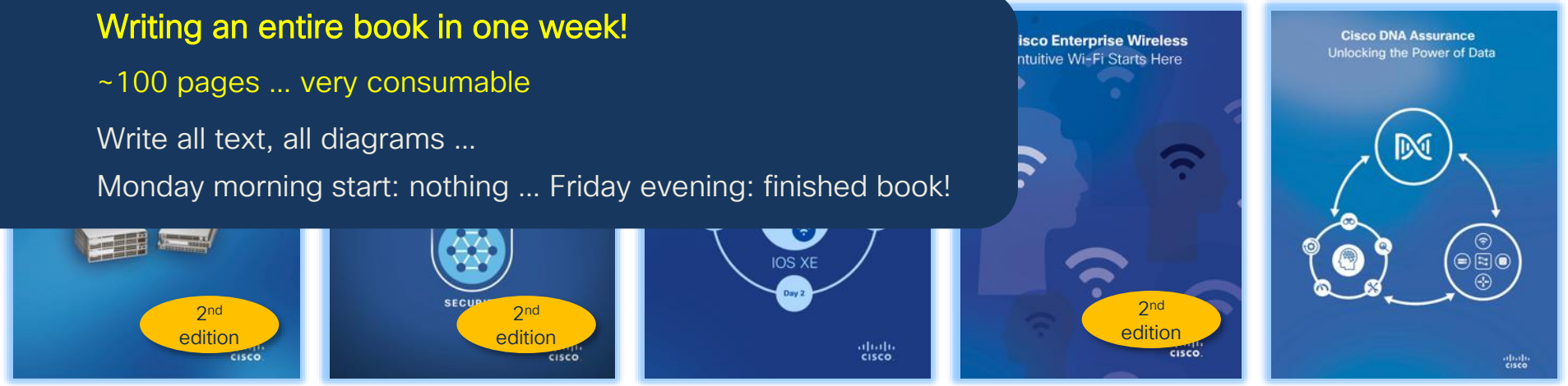


Writing an entire book in one week!

~100 pages … very consumable

Write all text, all diagrams …

Monday morning start: nothing … Friday evening: finished book!



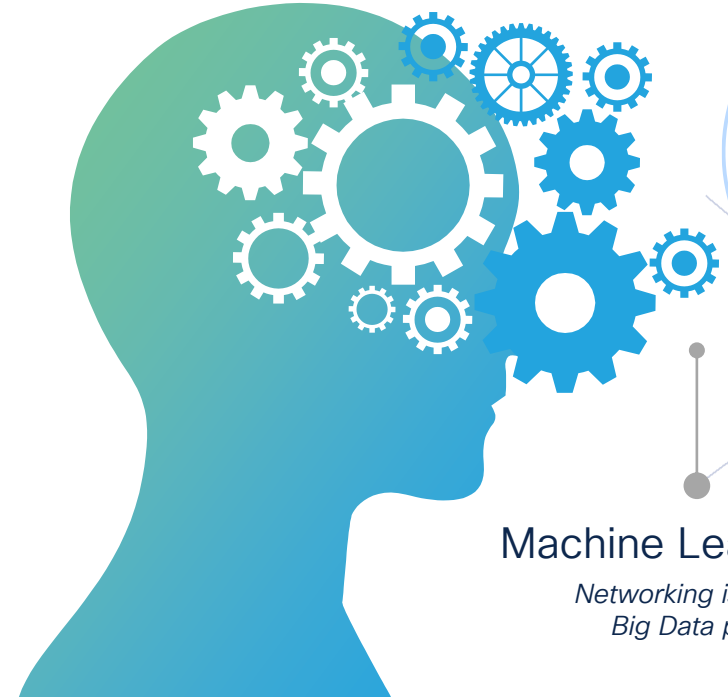
INVENTING It

Latest Projects and Focus

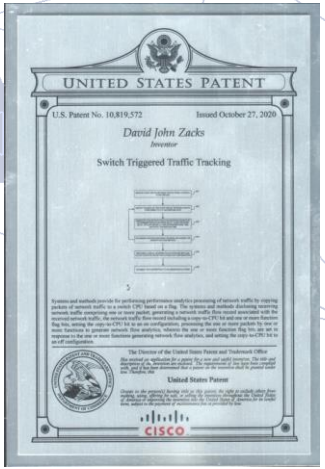
Cisco Customer Experience

Telemetry and Assurance

If you can't measure it … it didn't happen …



CX Cloud



Patents / IP creation

Machine Learning / AI

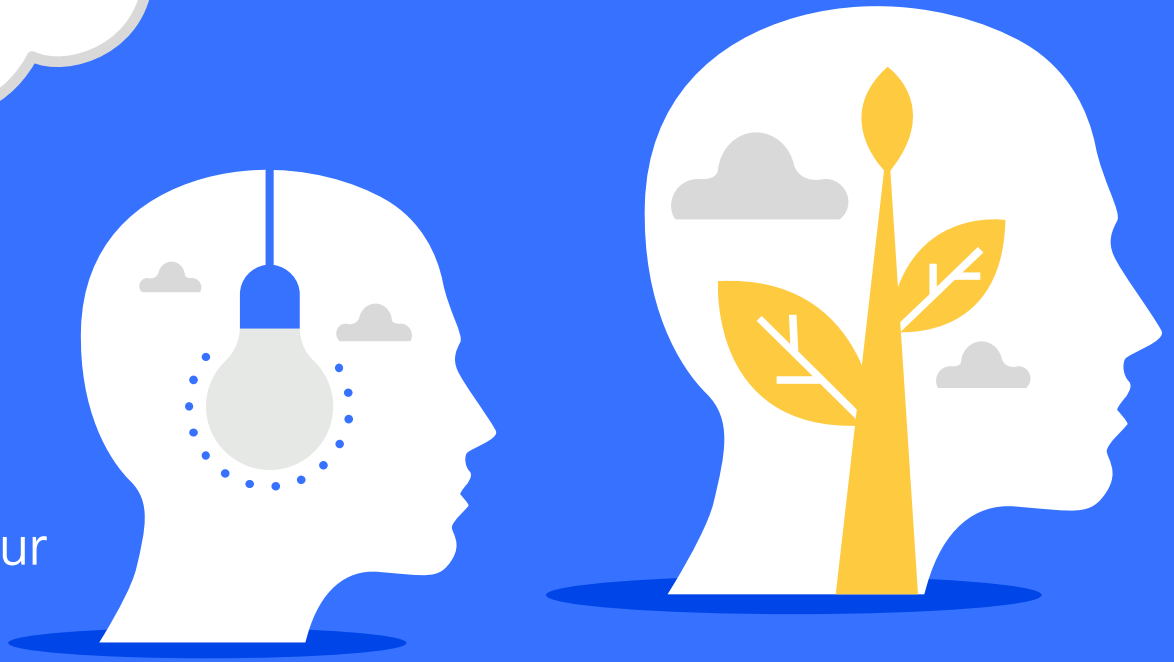
Networking is inherently a Big Data problem …

MENTORING

Help others grow

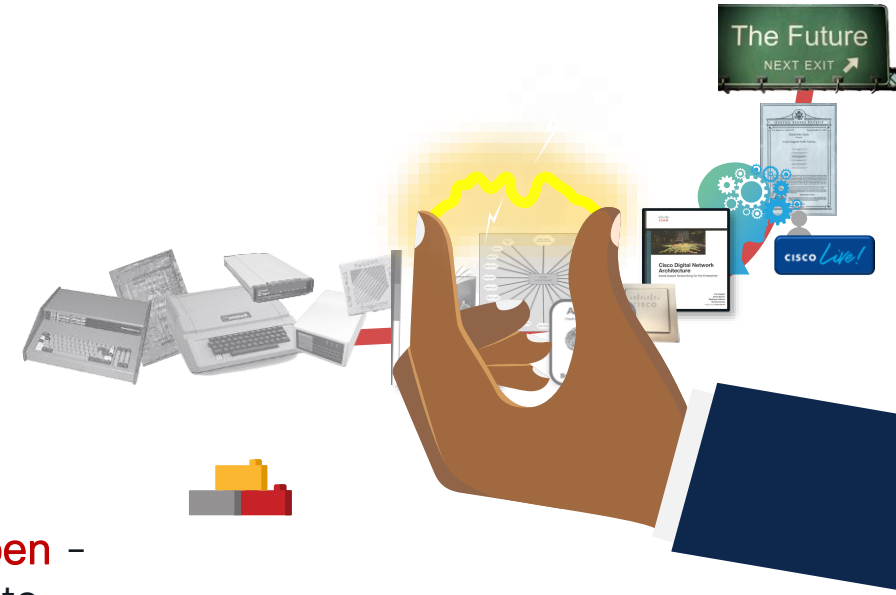
Pass the knowledge on ...

... and learn from your mentees! ☺



Lessons Learned

... so far ... always learning ☺



You never know where your path will lead

Do what you are **passionate** about –
it's the only way to sustain over the long term

Be around smart people – keep your **brain open** –
stay **humble** – and **never** be afraid to contribute

Grow others to grow yourself – "give it away off the truck" –
there will always be more and new opportunities

You never know when that "one little thing"
from 15 years ago, or that one connection you made,
will lead to your **next big breakthrough**

HAVE FUN along the way!

Peter’s Journey

(so far)

Where do I fit in at Cisco?

Enterprise Switching

Enterprise Routing

Enterprise Wireless

Me

My Boss
(Scott Scheeler)

Industrial Networking

Data Center Switching

How Did I Get Here?
Early Days

Floreat Park Primary, Perth, WA - 1970-1976
City Beach High School, Perth, WA - 1977-1978

Perth, Australia

Headland Senior High School, Port Hedland, 1978-1980

University of Western Australia, Perth, WA 1981 - 1984

Bachelor of Science
Comp Sci (Major)
Physics (Minor)

The Work Journey

What did I think would happen?

- This is 1985, software is a relatively new thing.
- WA: One major city, farming, mining
- Career
  - Get a programming job.
  - Keep working
  - Retire

A straight road

Mac

IBM PC AT

HP 3000 mini

Vax 11/750 Mini

IBM S/370 Mainframe

Computers in 1985

Hamersley Iron, Tom Price, WA – 1985-87

HP 3000 mini

HP 150 PC

Jeans West, Perth WA - 1987-88
Computer Protocol, Perth WA - 1988-89

Amstrad
PC 512

Olivetti M24

Computer Protocol/Datacraft, Nashville, TN, Boston, MA – 1989-1990

Compaq Portable III

HP 4951 Protocol Analyzer

Datacraft, Perth, WA – 1990-1995

Olivetti M24

ATRI, Perth, WA – 1995-1997
Atmosphere Networks, Perth, WA – 1997-2000

SPARCstation 10

Luminous Networks, San Jose, CA – 2000-2005
Cisco, San Jose, CA – 2005-now

ThinkPad T21

ThinkPad X1
Carbon 7th gen

Challenges: Building Systems

Joined Catalyst 3850 project in 2006

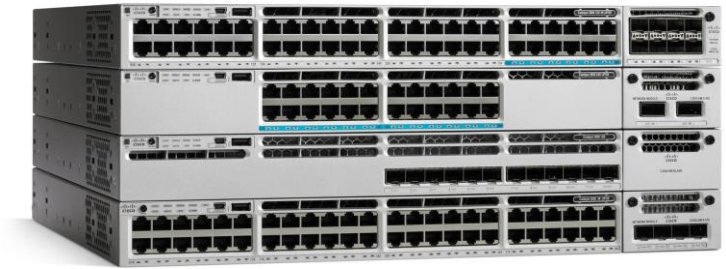
Cisco Catalyst 3750

Catalyst 3750 was HUGELY successful, BUT

- FCSed April 2003, and was nearing the end of its development cycle.
- How do you replace the most successful switch on the planet?
  - Rethink the assumptions and architecture

New world view

- Change will keep accelerating
- Network must enable and support business change
- Major changes
  - New ASIC architecture targeting flexibility
  - New SW architecture modelling virtual chassis



Cisco Catalyst 3850

Functional – Fast – but **FIXED** in nature

May not handle new protocols and encapsulations

May limit adoption of new technologies and solutions

3750->3850 ASIC transition

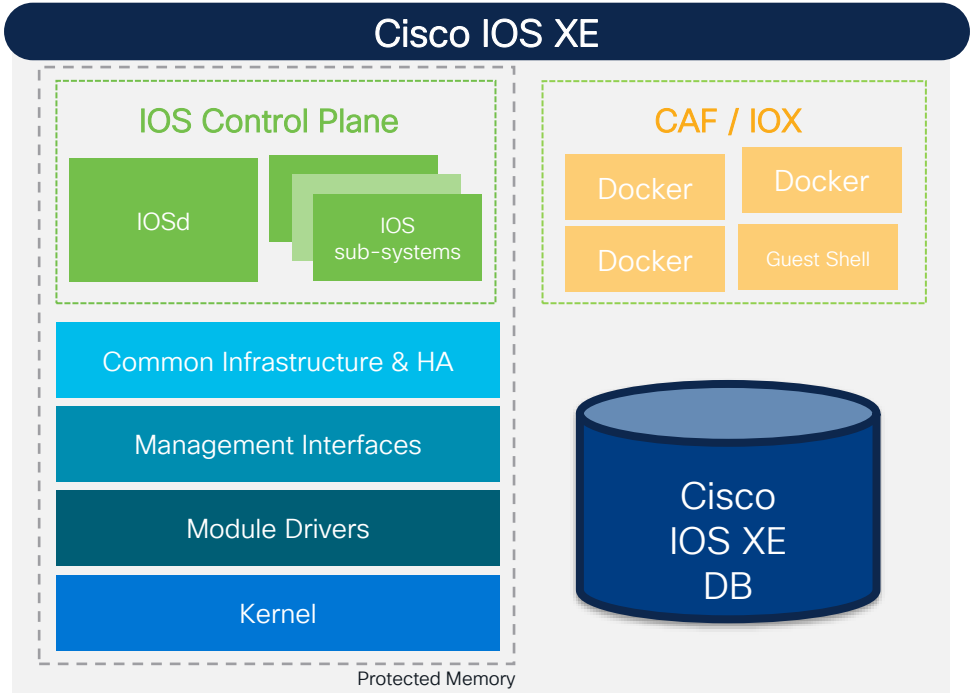
Functional – Fast – but **FLEXIBLE**

SOFTWARE adaptability @ ***HARDWARE*** *speed*

RAPID technology and solution **ADOPTABILITY**

Review BRKENT-2000 - https://www.ciscolive.com/global/attend/sessions/session-catalog.html?search=BRKENT-2000#/

Cisco IOS XE – A Modern Operating System



Cisco IOS subsystems

Resiliency and High Availability

Cisco IOS XE database

Programmability and Open models

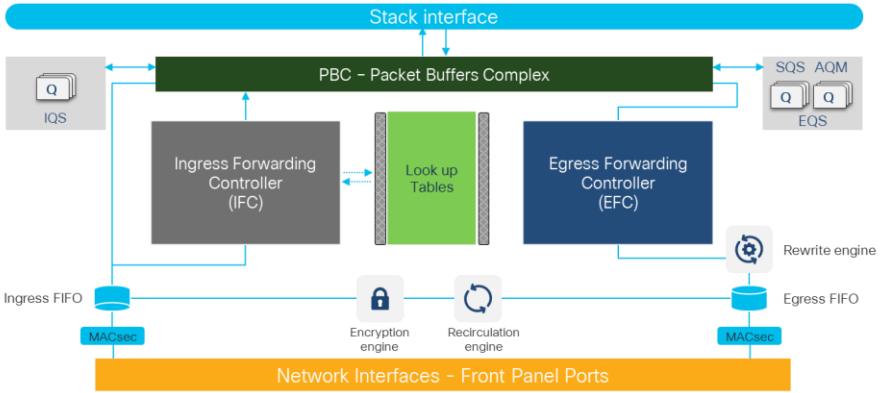
IOX / Docker containers

Cisco and 3rd-party App hosting

Open, Model Driven & Secure Operating System

Review BRKARC-2098 - https://www.ciscolive.com/global/attend/sessions/session-catalog.html?search=BRKARC-2098#/

UADP Platform Evolution



Catalyst 9500/9600 – 2019
UADP 3.0 – 19.2B transistors

Catalyst 9400/9500 – 2018
UADP 2.0 – 7.5B transistors

Catalyst 9300 – 2017
UADP 2.0 – 7.5B transistors

Catalyst 3850 – 2013
UADP 1.0 – 1.3B transistors

Catalyst 3850 mGig – 2015
UADP 1.1 – 3.0B transistors

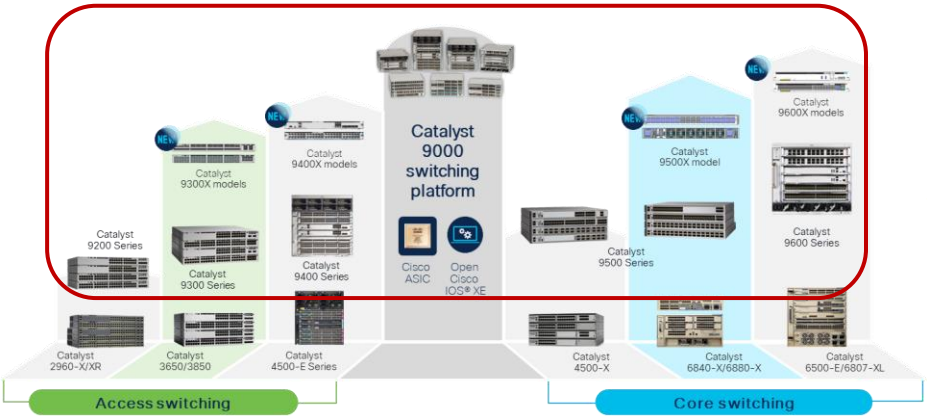
Catalyst 9200 – 2019
UADP 2.0 mini – 3.2B transistors

Catalyst 9K switches

CISCO SYSTEMS, INC.
REVENUE FOR GROUPS OF SIMILAR PRODUCTS AND SERVICES
(In millions, except percentages)

	January 29, 2022			
	Three Months Ended		Six Months Ended	
	Amount	Y/Y %	Amount	Y/Y%
Revenue:				
Secure, Agile Networks	$ 5,898	7%	$ 11,866	9%
Hybrid Work	1,067	(9)%	2,176	(8)%
End-to-End Security	883	7%	1,778	6%
Internet for the Future	1,322	42%	2,697	44%
Optimized Application Experiences	180	12%	361	15%
Other Products	2	(28)%	5	(10)%
Total Product	9,353	9%	18,882	10%
Services	3,367	(1)%	6,738	—%
Total	$ 12,720	6%	$ 25,620	7%

Second Quarter Earnings, February 16, 2022 https://newsroom.cisco.com/press-release-content?type=webcontent&articleId=2220403



Sep 18, 2019
Cisco's Catalyst 9000 switches helped fuel campus switching market growth in the second quarter. Cisco CEO Chuck Robbins has touted the Catalyst 9000 switches as the fastest growing product in Cisco's history. Cisco's Catalyst 9000 router sales were a factor in pushing first quarter growth this year in the campus switch market, according to Dell'Oro Group.
https://www.fiercetelecom.com/telecom/campus-switch-market-results-robust-q2-despite-weakness-china

Challenges:
Finding My Place

Cisco Live – 2013-now

Roles

Speaker support
-> Speaker
-> Advisor
-> Mentor

Skills

Field and customer relationships

Formal and informal communications

And especially kilt wearing - #KiltedMonday

cisco Live!

802.3 – 2014-now

- Not a PHY expert - what's my role?
- Individual process -75% to make technical decisions
- New skills
  - Language standard-ese
  - Understanding – what does everyone need?
  - Creativity – what could we agree on?
  - Lobbyist – seal the deal

IEEE Std 802.3br-2016

Amendment 5: Specification and Management Parameters for Interspersing Express Traffic

IEEE Std 802.3bz-2016

Amendment 7: Media Access Control Parameters, Physical Layers, and Management Parameters for 2.5 Gb/s and 5 Gb/s Operation, Types 2.5GBASE-T and 5GBASE-T

IEEE Std 802.3cc-2017

Amendment 11: Physical Layer and Management Parameters for Serial 25 Gb/s Ethernet Operation Over Single-Mode Fiber

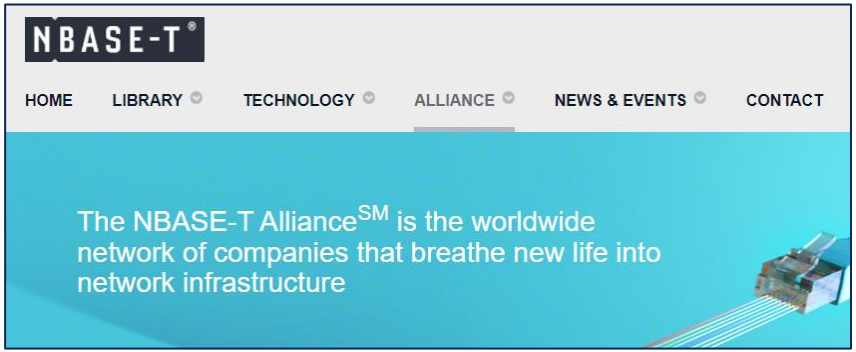
IEEE Std 802.3cg-2019

Amendment 5:
Physical Layers Specifications and Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced Pair of Conductors

Get 802® - https://ieeexplore.ieee.org/browse/standards/get-program/page/series?id=68

NBASE-T Alliance –2014-2019

- Non-profit vendor alliance for technology promotion
- New skills
  - Chairman – standup, run and grow a nonprofit
  - PR/Communications - comms strategy
  - Spokesman - press, analysts, tradeshows, social media
  - Interviewer – webinar host

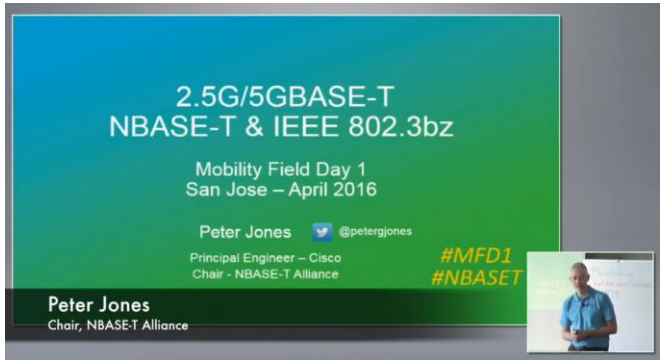


Board of Directors

Peter Jones, Cisco
CHAIRMAN, VICE PRESIDENT, AND BOARD MEMBER

Peter Jones has been defining Cisco Catalyst system architecture since 2005. He became a Distinguished Engineer in 2018, in part because of his contributions to the NBASE-T Alliance and groups such as IEEE 802.3. Peter is Chairman and Vice President of the NBASE-T Alliance, driving development of the ecosystem from components to market education. He is also actively involved in the IEEE 802.3 Ethernet standards development work, both enterprise technologies and the emergence of Ethernet to transform building and industrial automation.

Technology Evangelist –2015-now



Show 329: The NBASE-T Alliance & 2.5/5.0 Gigabit Ethernet

DREW CONRY-MURRAY — *MARCH 3, 2017*

00:00 00:00

Podcast: Download () | Embed

On the Packet Pushers today, a look into the mysterious world of 2.5 and 5.0Gbps Ethernet. Never heard of it? Thought Ethernet speeds only came in powers of ten? Then listen today and get caught up on some of what you've been missing.

Our guest is Peter Jones, the chair at the NBASE-T Alliance. We discuss the goals of the alliance, the bodies involved, and the technologies the alliance is focusing on, including 2.5 and 5.0 Gigabit Ethernet.

The Hedge 35: Peter Jones and Single Pair Ethernet

When you think of new Ethernet standards, you probably think about faster and optical. There is, however, an entire world of buildings out there with older copper cabling, particularly in the industrial realm, that could see dramatic improvements in productivity if their control and monitoring systems could be moved to IP. In these cases, what is needed is an Ethernet standard that runs over a single copper pair, and yet offers enough speed to support industrial use cases. Peter Jones joins Jeremy Filliben and Russ White to discuss single pair Ethernet.

The Cabling Podcast, Ep. 2: Peter Jones, Ethernet Alliance Chair

Ethernet Alliance –2019–now

ethernet alliance
www.ethernetalliance.org

Like NBASE-T,
but bigger

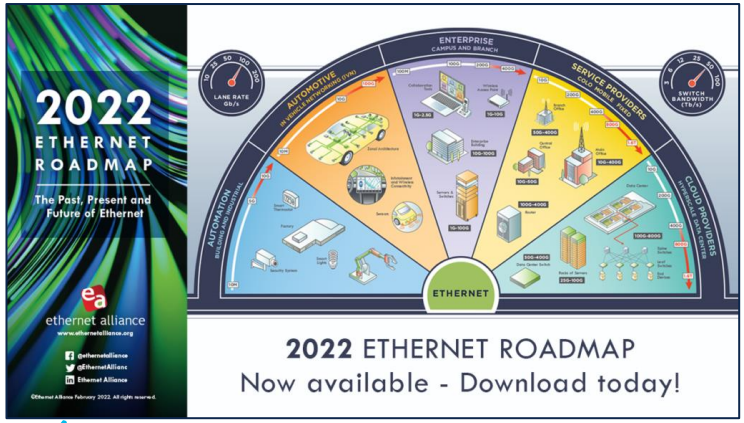
Peter Jones, Cisco

Chair

Peter is a Distinguished Engineer in Cisco's Enterprise HW team. He works on system architecture for Cisco's enterprise switching, routing, wireless and IOT products. While at Cisco, Peter has been a major contributor to the Catalyst switching product line, including the Catalyst 9000 family. He is chair of the Ethernet Alliance Single Pair Ethernet technical subcommittee. He's been active in IEEE 802.3 for several years, mostly working on BASE-T projects. He was Chair of the NBASE-T Alliance from its inception until its merger with the Ethernet Alliance. He works on evolution of technology to add value to physical infrastructure and make technology consumable.

New skills

- Speaking for entire Ethernet community
- Promoting multiple voices

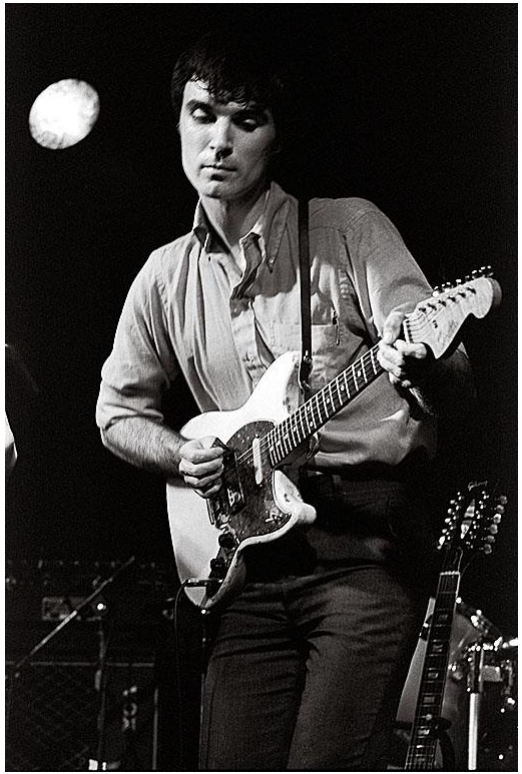


https://ethernetalliance.org/technology/ethernet-roadmap/

"The Voices of Ethernet project tells the story of the technology's journey from Xerox PARC in 1973 to the foundation technology of the Internet today. We talk to the key figures in this journey and let them tell their own stories."
Peter Jones, President, Ethernet Alliance

https://ethernetalliance.org/voices-of-ethernet/

And you may ask yourself, “Well, how did I get here?"



David Bryne - 1978

https://commons.wikimedia.org/wiki/File:David-Byrne_1978.jpg

David Bryne - 2009

https://commons.wikimedia.org/wiki/File:David_Byrne_2009.04.24_002.jpg

Looking back – Not the path I expected

Lessons learned

- Have a plan, but know it will change
- Be curious and humble, try to understand others
- Find mentors/advisors, and listen to them
- Look for satisfaction

Talents & skills

- Broad technical skills
- Communications – cross discipline, technology, culture etc.

Key transitions

- Doing -> Leading
- Leading -> Teaching
- Expanding scope

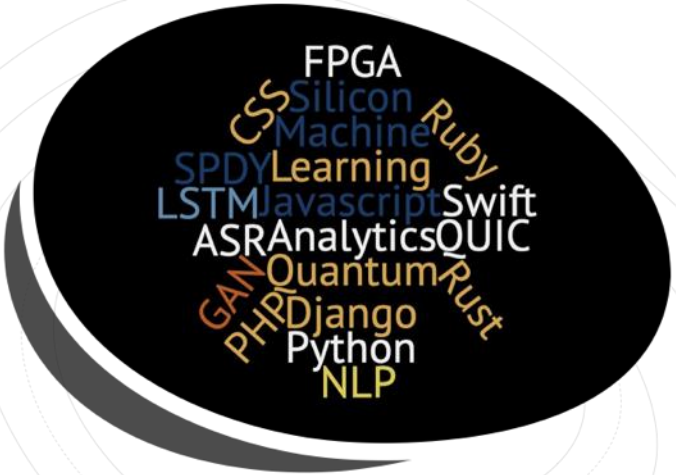
(e.g., BU->Cisco-> Customers->Industry)

https://commons.wikimedia.org/wiki/File:Lombard_Street_2020.jpg

Summary

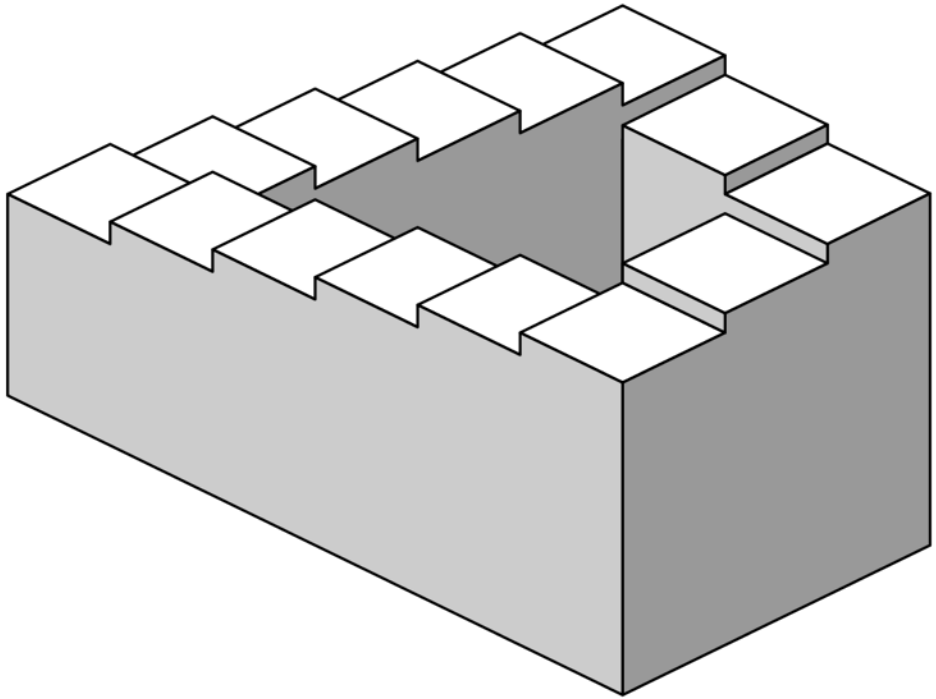
Progression of Your Technical Career

The technologies change ...



THE PROGRESSION IS THE SAME

... and
it's really
always this ...
☺



https://en.wikipedia.org/wiki/Penrose_stairs

Technical Session Surveys

- Attendees who fill out a minimum of four session surveys and the overall event survey will get Cisco Live branded socks!
- Attendees will also earn 100 points in the Cisco Live Game for every survey completed.
- These points help you get on the leaderboard and increase your chances of winning daily and grand prizes.

Cisco Learning and Certifications

From technology training and team development to Cisco certifications and learning plans, let us help you empower your business and career. www.cisco.com/go/certs

Pay for Learning with Cisco Learning Credits

(CLCs) are prepaid training vouchers redeemed directly with Cisco.

Learn

Cisco U.
IT learning hub that guides teams and learners toward their goals

Cisco Digital Learning
Subscription-based product, technology, and certification training

Cisco Modeling Labs
Network simulation platform for design, testing, and troubleshooting

Cisco Learning Network
Resource community portal for certifications and learning

Train

Cisco Training Bootcamps
Intensive team & individual automation and technology training programs

Cisco Learning Partner Program
Authorized training partners supporting Cisco technology and career certifications

Cisco Instructor-led and Virtual Instructor-led training
Accelerated curriculum of product, technology, and certification courses

Certify

Cisco Certifications and Specialist Certifications
Award-winning certification program empowers students and IT Professionals to advance their technical careers

Cisco Guided Study Groups
180-day certification prep program with learning and support

Cisco Continuing Education Program
Recertification training options for Cisco certified individuals

Here at the event? Visit us at **The Learning and Certifications lounge at the World of Solutions**

Continue your education

- Visit the Cisco Showcase for related demos
- Book your one-on-one Meet the Engineer meeting
- Attend the interactive education with DevNet, Capture the Flag, and Walk-in Labs
- Visit the On-Demand Library for more sessions at www.CiscoLive.com/on-demand

cisco Live!

Thank you


cisco Live!
ALL IN