



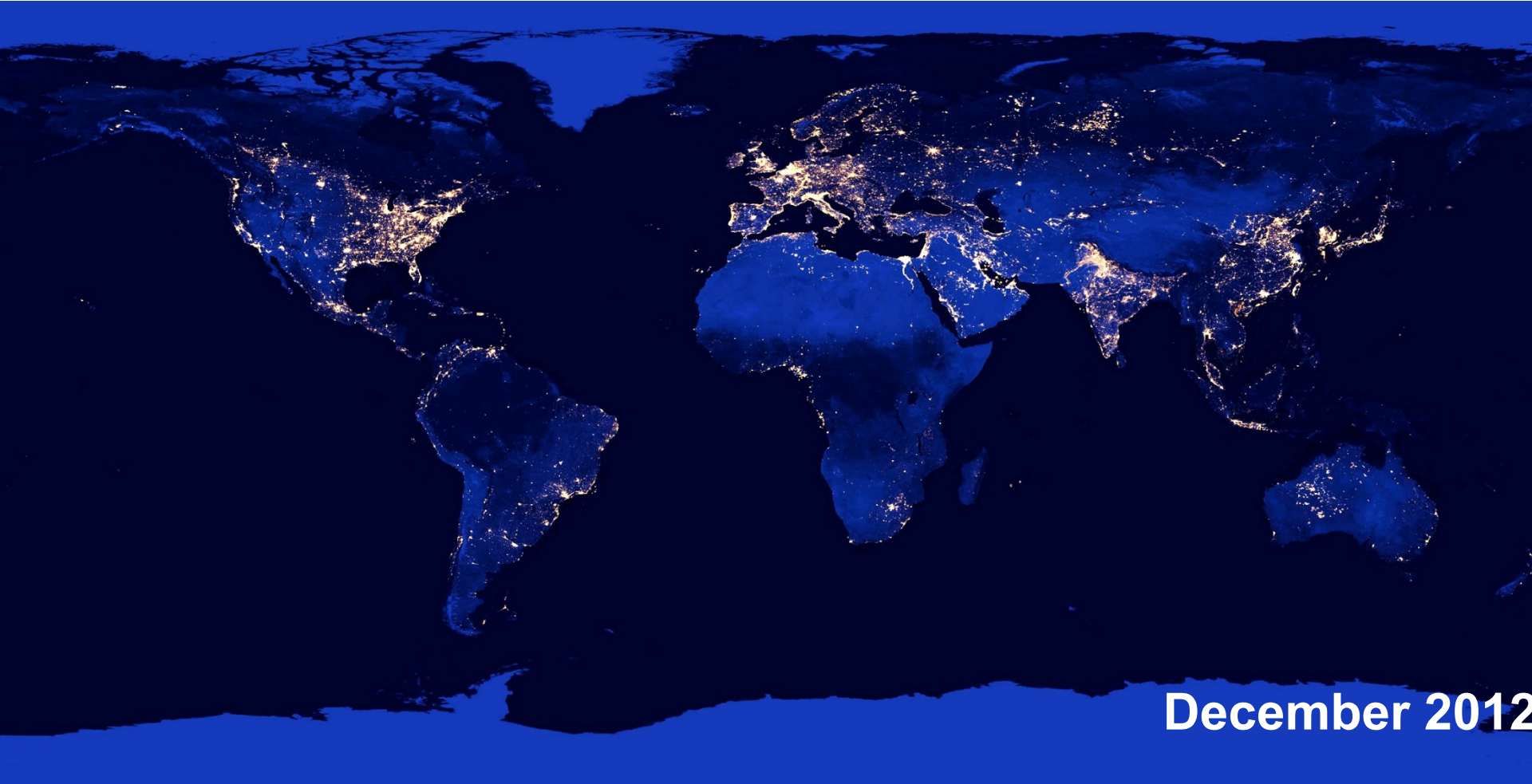
Technical Update

Germany Academy Day 2014

Bogdan Doinea
Technical Manager Europe
“IoE Guy” in
Cisco Networking Academy



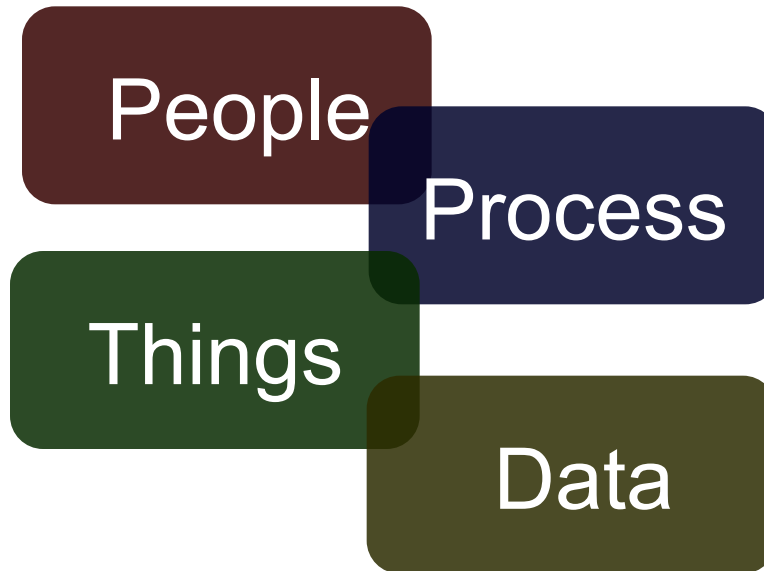
Composite map from data acquired by *Suomi NPP* Satellite.
From April – October 2012



“I began by taking a sample of about ten million pairs of friends from our data warehouse. I combined that data with each user's current city and summed the number of friends between each pair of cities. Then I merged the data with the longitude and latitude of each city.” ~ Paul Butler a Facebook intern Data Infrastructure team.

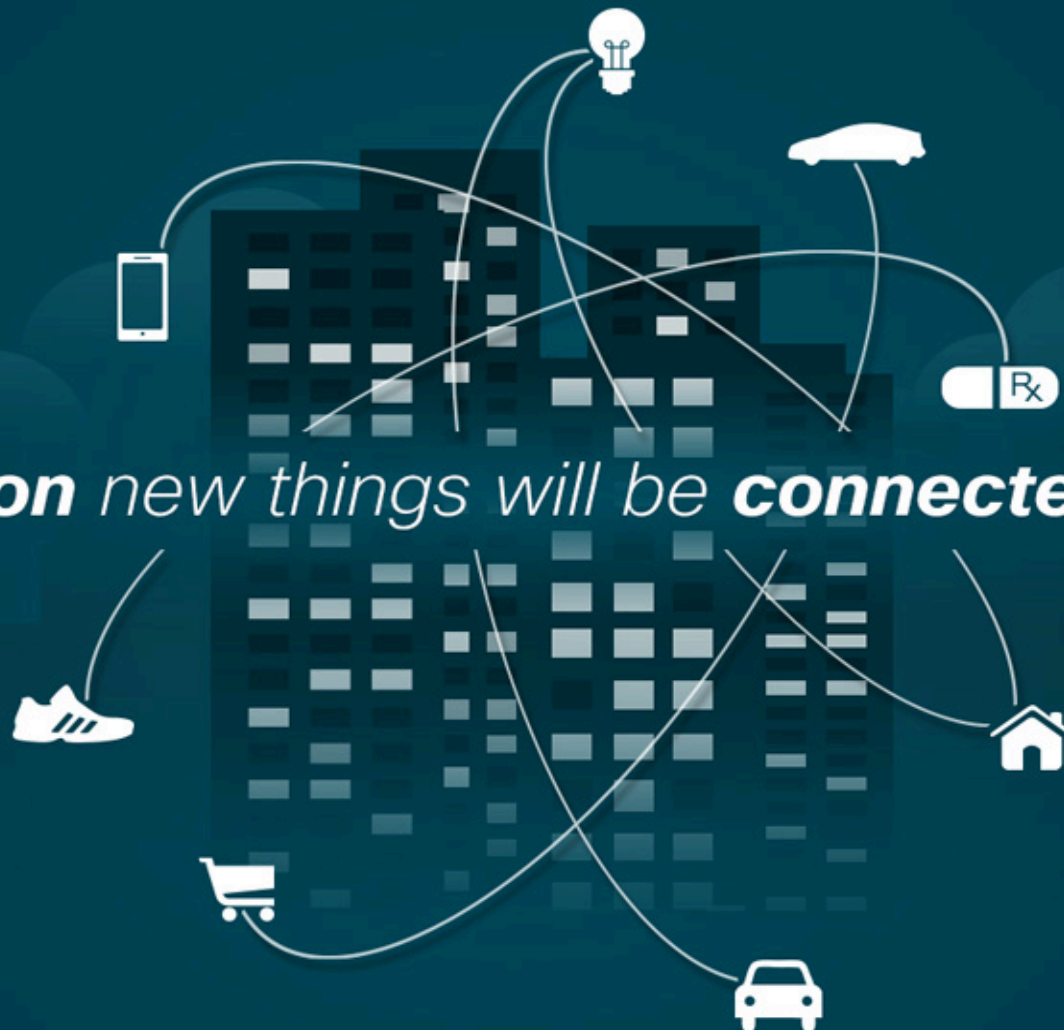


Connecting



THE INTERNET **OF EVERYTHING** IS HERE.

As the Internet evolves, so will we.



37 billion new things will be **connected by 2020.**

IoE creates opportunity

- Economical value at stake ~~14.4\$~~ **19\$** trillion by 2022
- New jobs come up every day and we expect an exponential growth
- New types of business and collaboration between the public and private sector
- What do we need to make this happen?





Market Shifts in Networking Skills

- Shrinking gap in general networking (routing and switching) skills
- Essential and emerging networking technologies skills gap is large and growing
 - Essential: Security, Voice, Business, Cloud
 - Emerging: Data Center, Smart Grid, IoE, Big Data, Collaboration, SDN



Source: IDC Skills Gap research, Jan-Apr 2013

Cisco New Offerings



Objectives for New NetAcad Offerings

- Address market shifts and skills gap
 - Meet global demand for technical skills beyond core routing and switching
 - Increase workforce readiness skills
- Expand learning opportunities
 - Provide introduction to essential and emerging networking technology skills
 - Supplement with career and collaboration skills
- Engage learners directly
 - Extend access to all NetAcad students
 - Provide options to self-enroll for self-paced, self-directed learning
 - Grow the pipeline for core NetAcad ICT offerings

New NetAcad Offerings in 2013-2014

Cisco Offerings

- **Self-paced, self-enroll** (some may also be instructor led)
- Instructional framework
- Resources such as videos, reference materials, Power Points, solutions and product video demos
- Self-contained assessment
- Letter of Completion

Community Developed Offerings

- **Instructor led**
- Resources offered as-is by community
- No assessment or Letter of Completion

Partner Offerings

- **Self-paced, self-enroll** (some may also be instructor led)
- May have assessment
- May be certification aligned

Community – Voice and Cloud

Community Developed Courses

Community developed courses are learning materials that have been developed through partnerships between Networking Academy instructors and Cisco. The goal of these collaborative efforts is to assemble relevant content and courses that can be shared with the entire NetAcad community.

Community developed courses adhere to the following guidelines:

- Not a formal curriculum or offering of the Cisco Networking Academy program
- Designed to be delivered to academy students as supplemental content
- No commitment by the community or Cisco to update this content or provide any formal support to the wider NetAcad community
- Formal instructor training has not been designed and will not be provided by Cisco
- References to source materials and participating instructor names are listed within the content

Instructors may enroll students and teach community developed courses through the same process used for Networking Academy courses.

Cloud Primer	Learn More
Voice Primer	Learn More
Collaboration Primer	Available Soon

Smart Grid

Efforts to limit the climate change and sources of renewable energy require a new electrical grid infrastructure

Smart grid can balance renewable energy production with consumption patterns.

Working with Smart Grid technology will require networking knowledge, will be IP based

Energy producers will implement smart metering in all regions



Approach for New NetAcad Offerings from Cisco

Core NetAcad ICT Courses

Certification aligned

Instructor led approach

Instructor pacing and facilitation

Full range of assessments

Course labs, activities, Packet Tracer

70 hours engagement

Instructor training required

New NetAcad Courses

May or may not be aligned to a certificate or industry certification

Students self-enroll (some may also be instructor led)

Subject matter expert facilitation/moderation and research, but not pacing

Quizzes and formative assessments are required, and summative assessments are desirable, for any technical-skill-related offering, as part of NetAcad's activity-based model for human learning

Some practice with feedback opportunities

10-30 hours engagement

Instructor training may or may not be required

Entrepreneurship Course Overview

- Helps students develop an entrepreneurial mindset
- Teaches skills such as business planning, negotiation, financial literacy, and problem solving
- Content organized into 7 modules that include practice activities and quizzes to test understanding
- Students can self-enroll, or instructors can teach this course in their classrooms
- Available in English, Arabic, and Spanish
- Estimated time to complete: 10-15 hours

Entrepreneurship



Entrepreneurship Is Interactive

Audio

Video

Interactive Activities

Labs

A screenshot of the Cisco Networking Academy Entrepreneurship course interface. The interface is titled "Entrepreneurship Is Interactive". On the left, there is a navigation menu with a list of course sections: "20 Introduction to Entrepreneurship", "0014 Entrepreneurship interactive", "011 Welcome", "012 Your Skills and Roles", "013 The Business Development", "014 Entrepreneurship is Interactive", "015 The Audio Quiz", and "016 Get Started". The main content area is titled "Entrepreneurship Is Interactive" and "Course Introduction". It contains several sections of text and images. The "Audio" section shows a group of people in a meeting. The "Video" section shows a man in a white shirt. The "Interactive Activities" section shows a table with columns for "Role and Working" and "Address and Communication". The "Labs" section shows a man in a green shirt working at a desk. The interface also includes a "Cisco Networking Academy" logo at the top and a "Chapter 0 Introduction to Entrepreneurship" breadcrumb at the top of the content area.

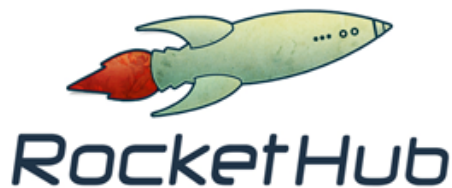
Who innovates? Re:Creative minds

- Old way of innovating – 15 years ago
- Step 1: Come up with an idea
- Step 2: Build a project plan, timeline, risk analysis business model etc
- Step 3: Try to obtain funds from an Angel Investor, Venture Capitalist fund etc
- Step 4: get lucky!
- Step 5: Start to build the product
- Step 6: Hope that the market will accept the product & the business plan
- Step 7: if not(get lucky), jump to Step 1



How about now?

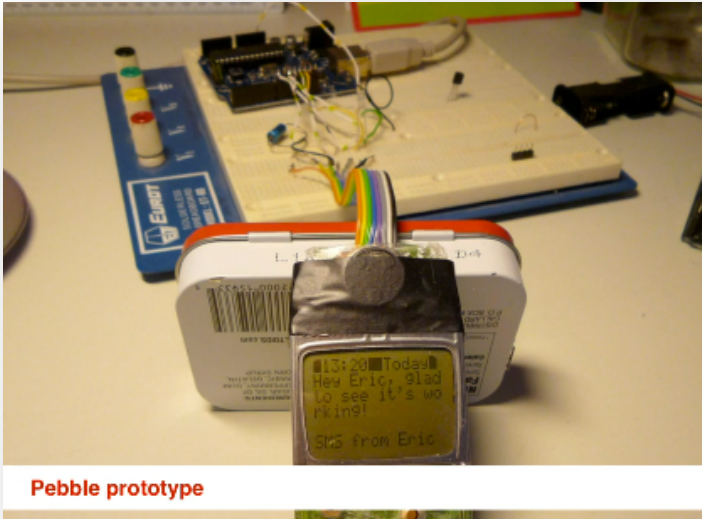
- CrowdFunding: Kickstarter, Indiegogo etc



Eric Migicovsky is 26 years old and has a vision: creating Pebble!



What is Pebble: *“It is a smart watch, something that connects to your phone and brings some of the functionality of your phone to your wrist”*



Pebble prototype

With his team he created a prototype with pieces of Old Nokia Phone and and some open hardware.

On April, 2012 he was looking for 100.000\$ to realize his idea.

Six VC and Investors put him down.

So he created this video



Pebble Raises \$3 Million+ in Four Days, What Kickstarter Means for Entrepreneurs

 3 comments, 3 called-out

[+ Comment Now](#) [+ Follow Comments](#)

?! What is Kickstarter? We're the world's largest funding platform for creative projects. [Learn more!](#)

KICKSTARTER

Discover great projects

Start your project

[BLOG](#) [HELP](#) [SIGN UP](#) [LOG IN](#)

Pebble: E-Paper Watch for iPhone and Android

A Product Design project in Palo Alto, CA by Pebble Technology · [send message](#)

PROJECT HOME

UPDATES 4

BACKERS 23,341

COMMENTS 1,594

[REMIND ME](#)



23,341
BACKERS
\$3,336,475
PLEGGED OF \$100,000 GOAL
31
DAYS TO GO

THIS PROJECT WILL BE FUNDED ON FRIDAY
MAY 18, 11:00PM EDT.

BACK THIS PROJECT
\$1 MINIMUM PLEDGE

PLEDGE \$99 OR MORE

200 BACKERS **SOLD OUT** (0 of 200 remaining)

EARLY BIRDS Help us get started! One Jet

[Like](#) 41,737 people like this. Be the first of your friends. [Tweet](#) [EMBED](#) <http://kck.st/9kumVS>

ABOUT THIS PROJECT

Pebble: E-Paper Watch for iPhone and Android

by Pebble Technology

Home

Updates 37

Backers 68,929

Comments 14,752

Palo Alto, CA

Product Design

Funded! This project successfully raised its funding goal on May 19, 2012.



68,929

backers

\$10,266,845

pledged of \$100,000 goal

0

seconds to go



Project by
Pebble Technology
Palo Alto, CA
[Contact me](#)

First created · 28 backed

Eric Migicovsky 720 friends

Website: getpebble.com



121,502 people like this. Be the first of your friends.



<http://kck.st/HumIV5>

So what's the process now?

- Step 1: Come up with an idea
- Step 2: Build an MVP
- Step 3: Share your dream with the community (no need to present project management documents or proposals)
- Obtain funding!
- If not (Obtain funding!), go to Step 1
- The cycle for this can be just 1 month

Introduction to Cybersecurity Course

- Introduces the importance of cybersecurity and current trends in industry
- Content organized in 7 modules that include presentations and panel discussions with industry experts
- Activities, videos and additional resources for students to explore
- Assessments include a pre-test, 7 quizzes, 1 final exam
- Students can self-enroll
- Available in English
- Estimated time to complete: 20 hours



It's the shoe again



Just the beginning

*THE INTERNET **OF EVERYTHING** IS HERE.*

As the Internet evolves, so will we.



37 billion** new things will be **connected by 2020.

#IoE #TomorrowStartsHere



Cisco Partner Offerings



Core vs. Partner Offerings

Core Cisco Offerings

Developed by Cisco

Certification aligned

Instructor led approach

Instructor pacing and facilitation

Full range of assessments

Course labs, activities, Packet Tracer

70 hour engagement

NetAcad students only enrollment

Instructor training required

Partner Offerings

Developed by a third party

May or may not align with certificate or certification

Instructor led, self-paced, self-enroll

SME facilitation/moderation and research but not pacing

Some types of assessment (quiz, formative assessment, skills exam)

May include some practice opportunities

Full course or short learning engagement (10 minutes to 70 hours)

NetAcad students and public users enrollment

May or may not require instructor training

Linux Essentials



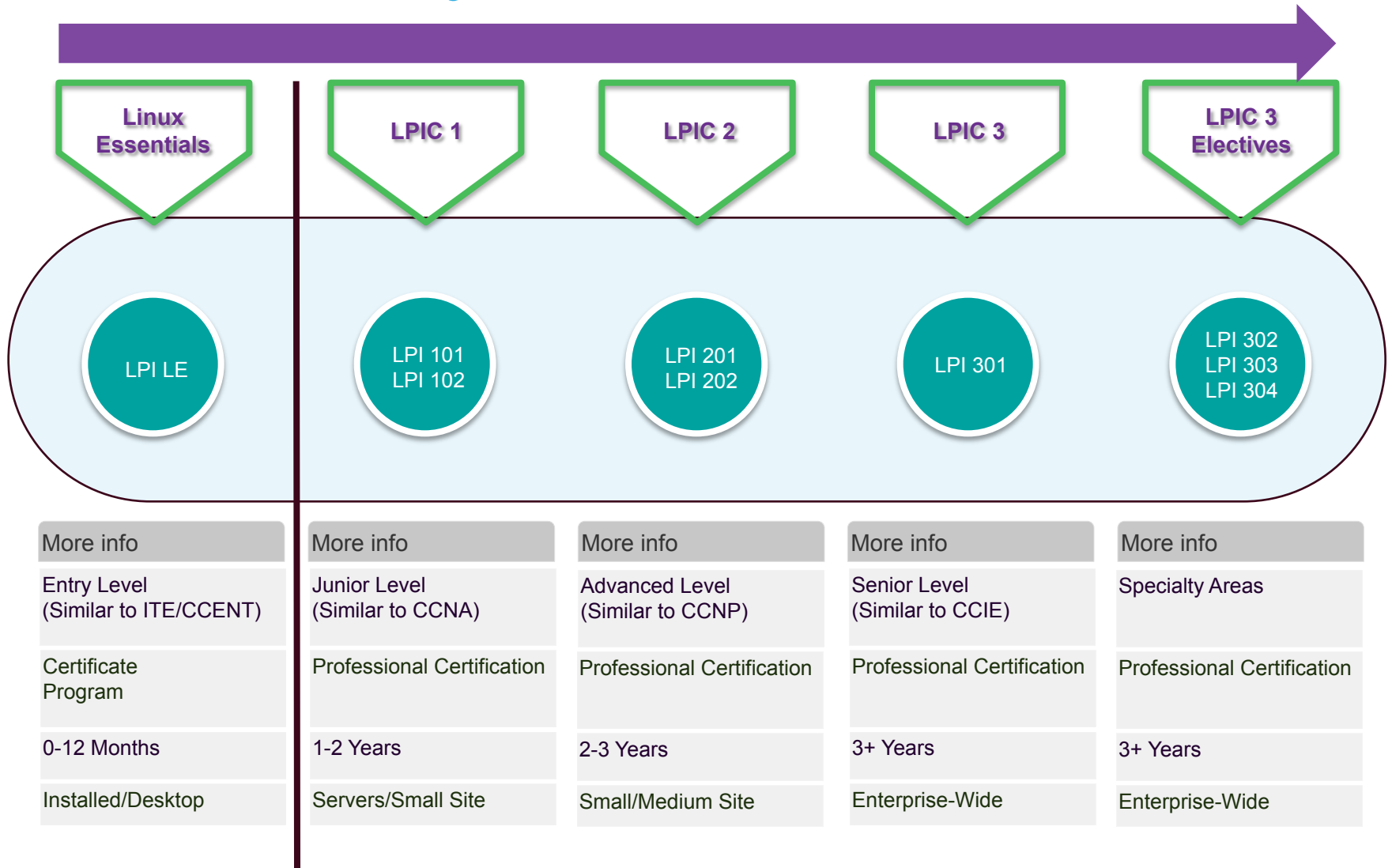
Why Linux Essentials?

- Linux essential foundation for many IT jobs
- Most Cisco DC, UC, and management software runs on or requires Linux knowledge
- Linux is essential in “app” development
- Demand for Linux spurred by open cloud development and the growing need for Big Data solutions, plus the use of embedded technologies in smartphones, cars, and other products
- 95% of LPI institutions are also NetAcad institutions



Source: [2013 Linux Jobs Report](#)

Linux Pathway



Linux Essentials

- Curriculum developed by Network Development Group (NDG) for the Linux Professional Institute (LPI)
- Instructor-led online curriculum
- Aligns with Linux Essentials Certificate of Achievement
- Targeted to entry-level Linux professionals. No previous Linux knowledge required

Linux Essentials Outline

Module	Title	Topics Covered
Module 1	Running Linux As an Operating System	<ul style="list-style-type: none">• Linux evolution and popular operating systems• Choosing an operating system
Module 2	Evaluate Available Applications	<ul style="list-style-type: none">• Major open source applications• Understanding open source software and licensing
Module 3	Buzzword Bingo	<ul style="list-style-type: none">• ICT skills and working in Linux
Module 4	Command Line Basics	<ul style="list-style-type: none">• Basics of using the Linux command line
Module 5	Getting Help	<ul style="list-style-type: none">• Using the command line to get help
Module 6	Listing Files and Directories	<ul style="list-style-type: none">• Using directories and listing files• Creating, moving and deleting Files
Module 7	Archiving and Un-archiving Files	<ul style="list-style-type: none">• Archiving files on the command line
Module 8	Pipes, Redirection, and REGEX	<ul style="list-style-type: none">• Searching and extracting data from files
Module 9	Scripting Commands	<ul style="list-style-type: none">• Turning commands into a script
Module 10	Understanding Computer Hardware	<ul style="list-style-type: none">• Understanding computer hardware
Module 11	Linux Data Locations	<ul style="list-style-type: none">• Where data is stored
Module 12	Poking Around the Network	<ul style="list-style-type: none">• Your computer on the network
Module 13	See Who Is on Your System	<ul style="list-style-type: none">• Basic security and identifying user types
Module 14	Create a New User	<ul style="list-style-type: none">• Creating users and groups
Module 15	Ownership and Permissions	<ul style="list-style-type: none">• Managing file permissions and ownership
Module 16	Securing Files and Directories with Special Permissions	<ul style="list-style-type: none">• Special directories and files

How it looks like

- Contains a VM for each student – to practice while learning
- Support is provided by NDG

1.1 Introduction

In this chapter we will explore the evolution of Linux and popular operating systems. We will also discuss the considerations for choosing an operating system.

>_ Linux Terminal Show/Hide

```
Usage:
ps [options]

Try 'ps --help <simple|list|output|threads|misc|all>'
or 'ps --help <s|l|o|t|m|a>'
for additional help text.

For more details see ps(1).
sysadmin@localhost:~$ ps -o
error: format specification must follow -o

Usage:
ps [options]

Try 'ps --help <simple|list|output|threads|misc|all>'
or 'ps --help <s|l|o|t|m|a>'
for additional help text.

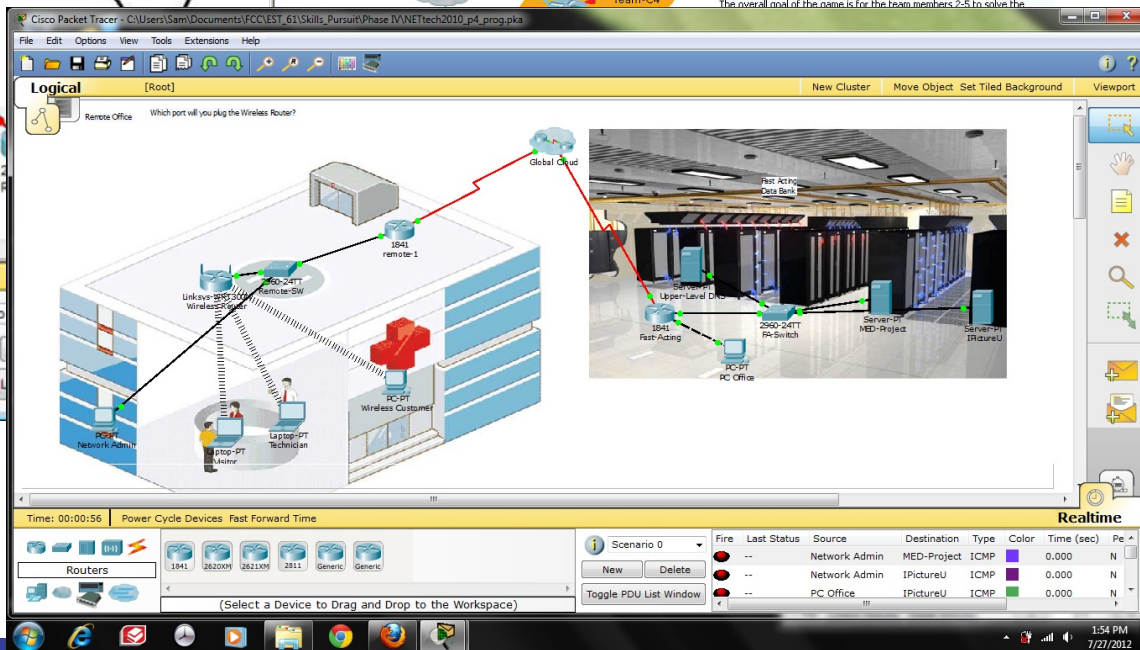
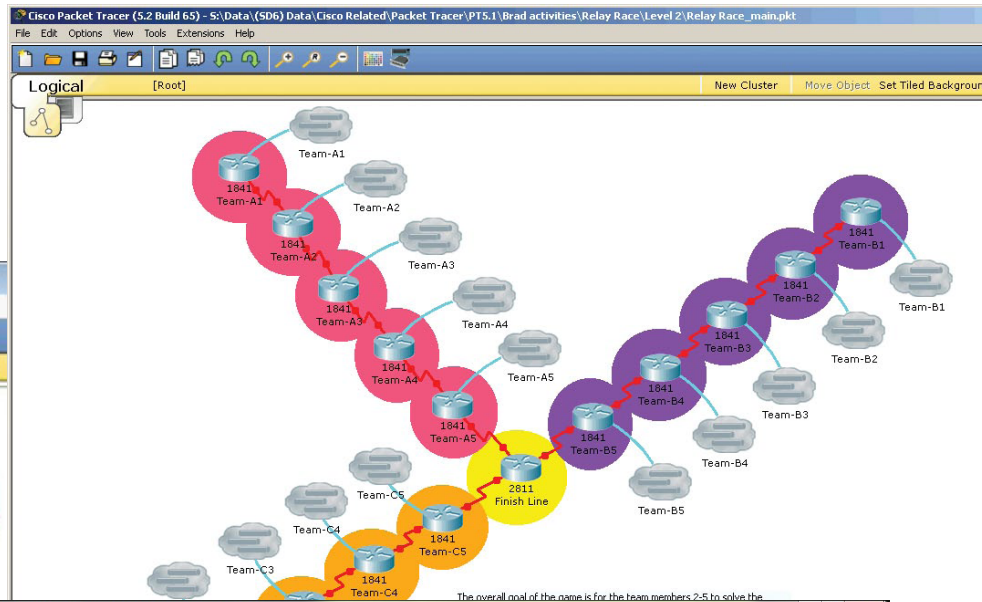
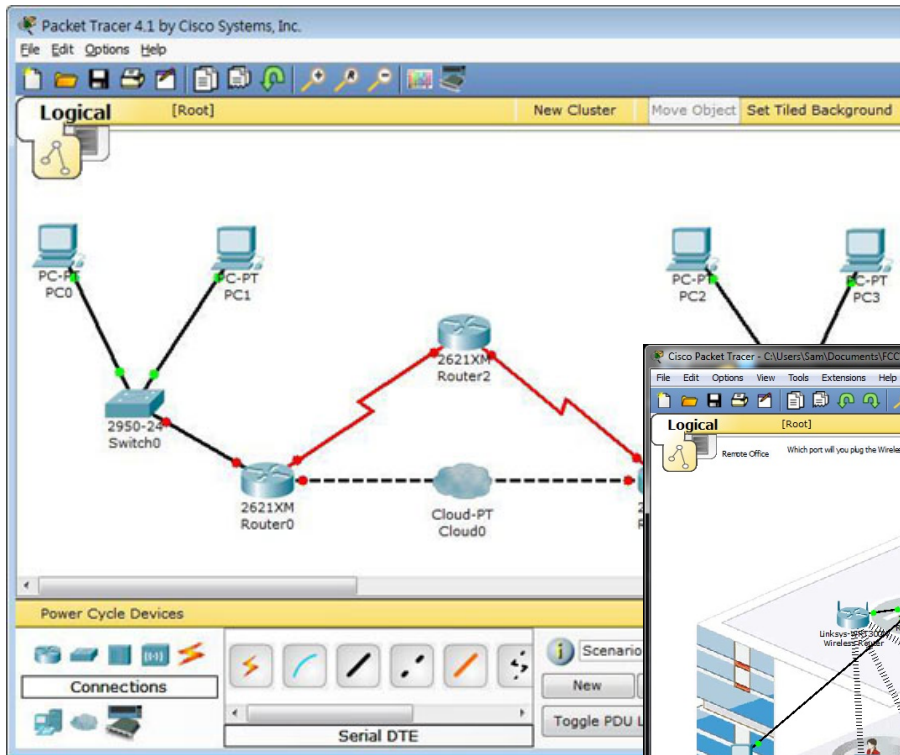
For more details see ps(1).
sysadmin@localhost:~$
sysadmin@localhost:~$
sysadmin@localhost:~$
sysadmin@localhost:~$
sysadmin@localhost:~$
```

Reset Restart

Tools in NetAcad



Packet Tracer



Going Mobile

>Workspace >Router2 >CLI Real Time

```
Enter M86U processor: part number 0, mask 49
Bridging software.
X.25 software, Version 3.0.0.
2 FastEthernet/IEEE 802.3 interface(s)
2 Low-speed serial(sync/async) network interface(s)
32K bytes of non-volatile configuration memory.
63488K bytes of ATA CompactFlash (Read/Write)

Press RETURN to get started!

disable
%LINK-5-CHANGED: Interface Serial0/0, changed state to up

enable
%LINK-5-CHANGED: Interface Serial0/1, changed state to up

exit
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

logout
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/1, changed state to up

ping
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0, changed state to up

resume
00:00:10: %OSPF-5-ADJCHG: Process 1, Nbr 172.30.1.2 on Serial0/1 from LOADING to FULL, Loading Done

show
00:00:10: %OSPF-5-ADJCHG: Process 1, Nbr 172.16.10.2 on Serial0/0 from LOADING to FULL, Loading Done

ssh
Router>

telnet
Router>

terminal
tracert
```

Navigation icons: Back, Home, Recent Apps

PT MOBILE

>Workspace Real Time

The network diagram illustrates a multi-branch network topology. At the top, four 2621XM routers are connected in a line: Watsonville, Router1, Router2, and Router3. Router2 is connected to a Linksys WRT300N Wireless Router0. Below the routers, there are three 2950-24 switches: Switch0, Switch1, and Switch2. Switch0 is connected to PC-PT A and PC-PT B. Switch1 is connected to PC-PT C and PC-PT D. Switch2 is connected to PC-PT F and PC-PT G. A central Hub-PT Hub0 is connected to a Server-PT Server0 and a PC-PT E_DNS_Server. The diagram shows a hierarchical structure with routers at the top, switches in the middle, and various servers and PCs at the bottom.

Navigation icons: Back, Home, Recent Apps

Instructor Professional Development



We have launched GIR 2.0!

- Global IPD:

<https://www.netacad.com/group/communities/global-instructor-resources>

What's new

Check out the new resources:
PT 6.01 Tips & Tricks
IPv6 Deep Dives
Virtual Academy Conference

[Check out](#)

New

Resources

What's New: > More	Recommended > More	IPv6 > More	Routing > More
Switching > More	WAN > More	Security > More	Cisco NetSpace > More
Packet Tracer > More	IT Essentials > More	Events > More	Other > More

Blog Posts

Recommended Resources in GIR
April 01, 2014 by [Kang Liu](#)

24-hour NetSpace Virtual Conference
March 25, 2014 by [Kang Liu](#)

What's New
March 25, 2014 by [Kang Liu](#)

Security Related Resources
March 25, 2014 by [Kang Liu](#)


NetSpace Resources
March 25, 2014 by [Kang Liu](#)

[Next](#)

Upcoming Events

For Europe - IPD Week

- <https://1040239.netacad.com/enroll/XR9EF7>



IPD Week

SPRING EDITION – Entrepreneurship & Internet of Everything

01st- 04th April

Day 1	Day 2	Day 3	Day 4
Tues 01 st Apr, 2014	Wed 02 nd Apr, 2014	Thurs 03 rd Apr, 2014	Fri 04 th Apr, 2014
<small>coming soon</small> Theme: Raise Awareness on Entrepreneurship (Entrepreneurship in Netacad)	<small>coming soon</small> Instructor Forum & Instructor Trainer Engagement (Forum)	<small>coming soon</small> Theme: IoE (Internet of Everything)	<small>coming soon</small> Theme: Summary of the week (French, Turkish ,Russian)

Overview slide

- IoE – People, Processes, Things and Data
- Cisco New Offerings – aligning skills needed for IoE
- Community Offerings – Cloud and Voice
Collaboration coming soon
- Cisco Offerings – Entrepreneurship, Cybersecurity
Data Center coming soon
- Partner Offerings – Linux Essentials (NDG)
- Packet Tracer Mobile
- Instructor Professional Development

The Future of 'Mind Wide Open' Teaching and Learning

