

Sun City Computer Club

Sun City Computer Club

Cutting the Cord

Alternatives to deliver video/audio content

September 2022



To view or download a MP4 file of this seminar
With audio

<https://vimeo.com/749640628>

- Use the above link for access
- You do Not need a vimeo account to view

View and/or listen to the audio recording



- Save money
 - Cable fees
 - Equipment fees / Lease
 - Regulatory fees
 - Rising costs
 - Cost control
 - Flexibility
- Doomsday

Why?



- Suddenlink/Optimum - cable service
- Suddenlink/Optimum - Internet
Cable infrastructure coax cluster
DATA CAPs
- Frontier - DSL in ground phone line 6Mbps
- Rock Solid Limited coverage
Attenuation - trees, rain, one tower
Speed Fast enough?
Dish on home
- Cellular
Varying coverage
Data cap

Options



- 5G 3 bands low mid high
Attenuation Yours Not yours
- Starlink & others
Low earth orbit
Latency
Latitude
- Geostationary satellite
Receive Only Dish DirectTV
- Fixed wireless
On house antennae
- Over the Air Antennae
In house coax HDMI
Digital pixelated
Doomsday
- Ubiquity ???

Options



- 911 considerations
- Doomsday considerations
- Cellular Wi-Fi calling
- Alexa “Alexa, call John”

Cutting Phone line



- Use existing coax
- Cable Modem
 - Modulator Demodulator
 - Frequency bands
- Router
 - Onto and Off the Internet
- Wireless Access point
- Wireless mesh
- MoCA
- Wireless – Ethernet adapter
- HDMI remote controlled switch

In Home infrastructure



- TiVo
- Digital DVR
- Streaming Devices
 - SmartTVs Smart Monitors
 - Amazon Fire
 - Apple TV
 - Roku
 - XBOX
 - PS4
 - Google Chromecast

In Home access



- Direct TV Now
- Hulu
- Netflix
- HBO Now
- Sling
- Amazon Prime
- Peacock
- Disney Plus
- YouTube TV
- Philo
- Paramount
- Fubo
- Starz
- TV+
- New ones
- Failed ones

Streaming Services



- Stream protocol firewall considerations
- Cable costs increases
- Cable channel offering price wars
 - “call your provider continue our channel”
- I don't watch/want those channels
- Convenience affordability flexibility
- Trials try before you buy
- Binge watch then cancel
- Portability take your device/service on trip
- Next day delay
- Live streaming
- On-demand

Streaming



- Cheaper
- Free trials Remember to cancel
- No contracts – usually
- Convenience when you want

Streaming



- Smaller devices get HOTTER
- TV vs Monitor
 - Display digital image
 - HDMI input
 - TV *usually* cheaper
 - Monitor proximity
 - 1080p 1920 x 1080
 - 4K UHD 3840 x 2180
 - 8K
 - Pixel density
 - Display technology
 - LCD older LED backlight
 - OLED self-illuminating pixels brighter
 - Mini LED

Video/Audio Display



- Changing pixels

Response time - time to change color

Refresh rate – times display will update

Monitors perform both better

TV 60Hz refresh rate

Gaming monitors 360Hz

- TVs with built-in tuners

- Monitors VGA, USB, DVI, Display Port, Thunderbolt, Mini VGA, HDMI, etc.

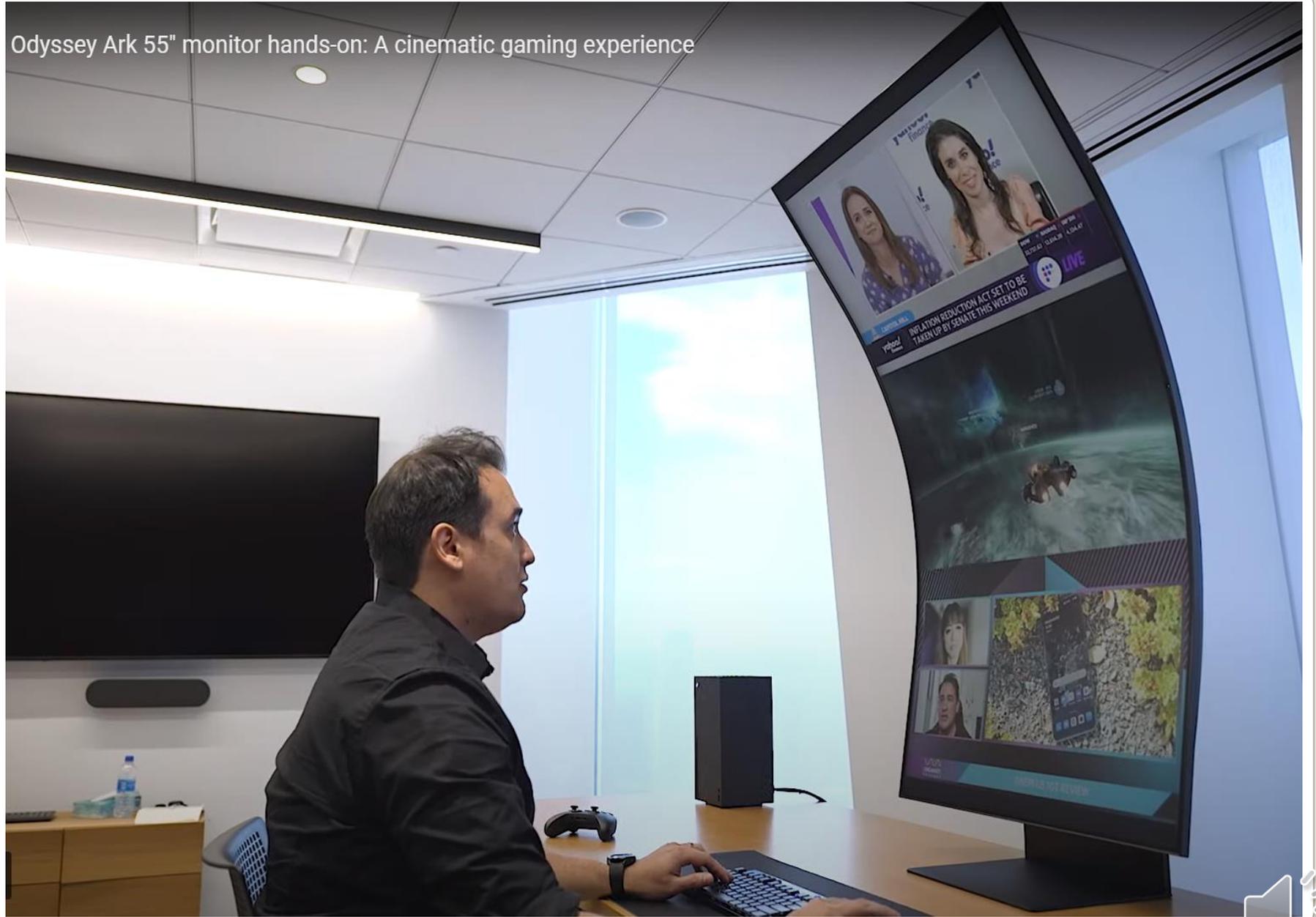
- Sound TV maximum Monitor minimum

- TV Licensing some countries

TV vs Monitor



Odyssey Ark 55" monitor hands-on: A cinematic gaming experience





- Research Research RESEARCH
- Adjust Adjust ADJUST

Your Needs or desires will vary



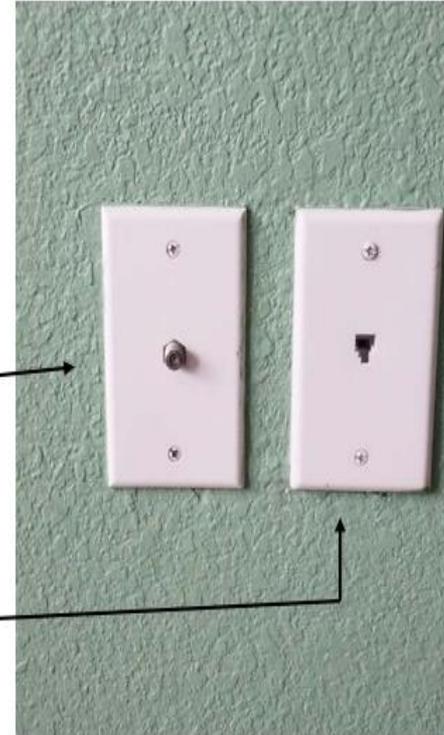
Cable Box



Coax Cable

Data Cable

Incoming Cable



How Internet gets into your home



- Cluster controller
- Power
- Bandwidth
- Cable TV possible during Internet outage
- 35Mbps 4K streaming
- Multiple path usage
- Other devices
 - Smart speakers
 - IoT devices doorbells, thermostats, etc.
 - Bandwidth demands
 - Faster downloads
 - Gaming display refresh
- Speed tests
 - Fast.com

Bandwidth





Your Internet speed is

490 Mbps



Parallel connections

Min: Max:

Test duration (seconds)

Min: Max:

- Measure loaded latency during upload
- Always show all metrics
- Save config for this device

Reset

Save

Cancel





Your Internet speed is

460 Mbps



Latency

Unloaded

11 ms

Loaded

120 ms

Upload

Speed

39 Mbps

Client Georgetown, US 74.194.129.47 Suddenlink
Server(s) Georgetown, US | Bryan, US | Kingwood, US

 Settings

360MB 

60MB 



- Data caps
- Personal Hot Spot

Cellular data



- Unique Internet Protocol address
 - You can see the world
 - The world can see you
 - Getting on the Internet
 - Getting back from the Internet
 - IP Addresses - ISP assigned
 - IP Addresses - VPN choices
- Be Home Appear anywhere
Be Anywhere Appear Home

Internet



- Equipment return
 - Avoid the return box
 - Wait for agent, get and keep the receipt
- Sit in the chair

Suddenlink/Optimum



February Classes	March Classes
Windows 10	Windows 10
Windows Files/Folders	Windows Files & Folders
iPhone Basics	Photoshop Elements 1
Photoshop Elements 1	iPhone Basics
MS Power Point	iPhone intermediate
Cut the Cords	Cloud Computing
Mac-Email Basics	Cut the Cords
Mac-iCloud	iTunes for PC & Mac
Mac-Files/Folders	Mac-Email Advanced
Mac-Numbers	Mac-Calendar
	Mac-Maintenance Basics
	Mac-Keynote



Complete Alphabetical Class List

A - F

- (2) *Cloud Computing*
- (2) *Computer and Information Security*
- (4) *Cut the Cord*
- (3) *eBay-Buy, Sell, and Ship*
- (1) *Facebook*

G - L

- (3) *Genealogy-Beginning Genealogy*
- (4) *Genealogy-DNA*
- (2) *Genealogy - Legacy Basic*
- (3) *iPhone-Basics* (by Apple)
- (4) *iPhone-Intermediate*
- (2) *iPhone/iPad-Photo Post Processing*
- (1) *iPhone/iPad-Photo Printing*
- (2) *iPhone-Photography*
- (1) *iPhone-Texting - Apple*
- (2) *iTunes-for Windows and Mac*

M

- (3) *MS Excel 2010-Intro*
- (3) *MS Excel 2010-Formulas & Functions*
- (3) *MS Excel 2010-Pivot Tables & Charts*
- (3) *MS Excel 2010-Ranges, Structured Tables, Charts*
- (2) *MS Power Point 101*
- (2) *MS Word 2010-Intro*
- (2) *MS Word 2010-Intermediate*
- (1) *MS Word 2010-Templates*

Mac

- (3) *Mac-Advanced Numbers*
- (1) *Mac-Calendar*
- (3) *Mac-Email Basics*
- (1) *Mac-Email Advanced*
- (2) *Mac-Files/Folders*
- (2) *Mac-iCloud Basics*
- (3) *Mac-Intro*
- (3) *Mac-Keynote*
- (2) *Mac-Maintenance Basics*
- (3) *Mac-Numbers*
- (3) *Mac-Pages*
- (3) *Mac-Photos*
- (3) *Mac-Review of Methods*
- (2) *Mac-Safari*
- (2) *Mac-TextEdit*

P

- (2) *Creating a Photo Book*
- (2) *Photo-Alternative Lighting*
- (2) *Photo-Composition*
- (2) *Photo-Perspective & POV*
- (3) *Photoshop Elements 1*
- (2) *Photoshop Elements 2- Beyond the Basics Using Layers*

Q-Z

- (1) *Safer Web Browsing*
- (1) *Securing a Home Network*
- (1) *Wi-Fi Routers-Select & Setup*
- (2) *Windows-Basic Skills*
- (3) *Windows-Files & Folders*
- (3) *Windows 10*
- (3) *Windows 10-Cortana and Edge*



2018

[Using the Cloud](#)

[View](#) | [Download](#)

[Understanding Home Entertainment Alternatives](#)

[View](#) | [Download](#)

[Presentation to the Chartered Club Group](#)

[View](#) | [Download](#)

[Cutting the Cable TV Cord](#)

[View](#) | [Download](#)

References Sun City Computer Club



- T-Mobile Home Internet Service
- Secure Internet access using public networks
- 5G Explained
- IoT security
- Whole House Control of IoT Devices
- Traveling with Electronics
- Update-Streaming TV outside the US
- Analysis of Suddenlink Billing 2018-05-10
- How the Internet Works
- Cutting the Cord (Dropping DirecTV)

Internet of Things



- – Programming - \$60/mo
- – DVR - \$10/mo
- – HD - \$10/mo
- – Whole Home DVR - \$3/mo
- – Secondary TV - \$8/mo
- – Protection - \$6/mo

Digital Converter

Digital Antenna with Amplifier

Cutting the Cord (DirecTV)



- T-Mobile Home Internet Service
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- Update-Streaming TV outside the US
- Analysis of Suddenlink Billing 2018-05-10
- How the Internet Works
- Cutting the Cord (Dropping DirecTV)
- Internet Streaming of TV Programming 2016-10-10
Slingbox

Internet of Things



Day 1 – Slides 1 -21 plus Network Diagram

- So What About an Antenna?
- My Approach
- 30 minute demo of a full entertainment system
- Homework #1 – download 16 free Apps and place in a folder on iPhone/iPad
- Homework #2 – checking bandwidth at each TV location
- Removing a Land Line Telephone or simply improving reception in your home
- Potential for Alexa (I've fallen and can't get up)
- Removing Cable – Competitive Landscape
- Removing Cable – Costs and Savings - Homework #3 – Examine your Cable bill
- Removing Cable – Network Diagram – Homework #4 – Sketch your network
- Removing Cable – Hardware to Return to Cable Company – Homework #5 – Identify your equipment to return to Cable Provider
- Removing Cable – Hardware you still need
- Removing Cable – No need for Over the Air Antenna; could test without any expenditure before biting the bullet



Day 2 – Slides 22 - 24 plus Network Provider Spreadsheet, Making the Right Choice Comparison, Features

- Questions from Day 1 and/or Homework
- Do You Own Any of the Following Equipment?
- Hand out Network TV Provider Spreadsheet, Making the Right Choice Comparison, Making the Right Choice Features and discuss
- Homework #1 – Selecting the network that best meets your viewing needs
- Homework #2 – Selecting the network based on features, performance & reliability and devices
- Hand Out Connectivity Devices Comparison
- Homework #3 – Tentatively Select Connectivity Device



Cut The Cords (Phone and/or Cable)

Agenda

Day 3 – Slides 25 – 28 plus Things You May Need, Connecting Apple TV and Sticks, Basic

Functionality of YouTube TV / Apple TV

- Handout “Things you may need during the installation and configuration process” handout
- The Apple TV Experience
- Handout “Connecting Apple TV”
- Handout “Basic Functionality – Youtube TV / Apple TV”
- Loading & Organizing Apps on an Apple TV
- Quick Look at other entertainment Apps (movies, music and education)
- Getting an account for YouTube TV
- Exploring YouTube TV



Day 4 – Slides 29 – 30 plus Connecting your Sticks (Roku or Firestick), Basic Functionality of Directv Now / Amazon Firestick, Basic Functionality – Hulu / Roku

- The Amazon Firestick TV Experience
- Loading & Organizing Apps on an Amazon Firestick
- Quick Look at other entertainment Apps (movies, music and education)
- Getting an account for Directv Now
- Exploring Directv Now
- The Roku Experience
- Loading and Organizing Apps on a Roku
- Quick Look at other entertainment Apps (movies, music and education)
- Getting an Account for Roku
- Exploring Hulu
- Make your decision and go for it or try it for free on a mobile device before committing



- Apple TV
- Streaming to iPhone, iPad
- Apple watch

iDevices SIG



- Placing an intelligent device behind home firewalls
- You watch TV, the TV watching you watch
- Smart TV Computer that displays TV
- Your viewing is of high value
- Network segmentation
- Do not use apps to provide credit cards

Cyber Security concerns



- Securing a Home Network

Computer Club > Cyber Security Sig >
Meeting Notes > Seminars

- Cutting the Cord Considerations

Computer Club > Cyber Security SIG >
Cyber Security News Archive



Cyber Security concerns



SCCCyber

Showing posts sorted by relevance for query cord considerations. [Sort by date](#)
[Show all posts](#)

Wednesday, April 11, 2018

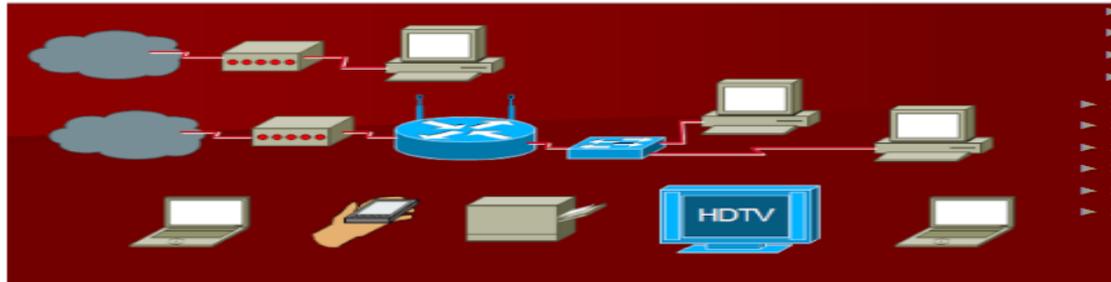
Cutting the Cord Considerations

Great interest in Cutting the Cord presentations given by the Computer Club. The iDevices SIG has talked about streaming from iPads, using AppleTV, and similar. The Internet of Things gave a full presentation on Cutting the Cord in August 2017 with followups from users using SmartTVs, Roku, Amazon Fire, Sling, Hulu, and similar. Many YouTube videos exist detailing using your Mac as a DVR and other techniques for acquiring content available from Suddenlink cable service.

This post will cover cyber security concerns, so not over the air antennae, satellite content feeds, or Red Box.

If you have Suddenlink or similar cable service to your house for Cable TV, Internet, telephone land line, etc. the coax cable feeds into your house and the DVR and secondary units to take that coax cable TV signal to your TV, monitor or other display devices. When you add Internet service you get or provide a cable modem to access the Internet TCP/IP signal bandwidth. Most households then add a router or two, a Wireless Access Point (WAP) or more and use this home infrastructure to add all manner of useful devices. Internet door bells, smart phones, security cameras, tablets, and growing.

Most routers and WAPs have some Internet security built in. Firewalls, WEB proxies and similar.



Over time you add wireless printers, smart TVs, laptops, security cameras, and now devices to stream video content to your display devices. It might surprise you to look at your router or WAP to see how many devices have been added over time. It also might surprise you to see rogue devices on your home network.

My concerns with adding devices to your home network for video content:

1) If not done explicitly those devices get added to the same Virtual Network (Vlan) as your devices you use for banking, shopping, email, etc. WiFi uses encryption, but only for the data portion of packets. If a wireless device is on the wireless network it can decrypt those packets. For devices on the same Vlan a promiscuous device can "see" all traffic. Most of the streaming devices only need to get to the Internet, not to your home networked devices used for finance. Consider using the "Guest" network feature in most Wireless Access Points and/or routers. The Guest feature places the device on a separate Vlan that can get to the Internet but not the home network on another Vlan. Depending on the WAP the Guest devices do not use the same encryption password used to encrypt the data on wireless traffic packets. To gain access the Guest devices, supply a password on the first WEB attempted access. This Guest access password is not used for encryption. By default the Guest network name is your Service Set Identifier (SSID) name with a "-guest" string appended.

Blog Archive

▼ 2022 (56)

▼ August (9)

iOS 12 update Releases by Apple

Mozilla releases update to Firefox, Firefox ESR, a...

WARNING!! That free Microsoft Office USB drive tha...

Got an older macOS? Then please get Safari update

Google Chrome security update issued today Augu...

Apple Updates today August 17

Zoom Manual update for macOS

Malicious Apps to find and remove from your MAC

Hacktivism on rapid rise

▶ July (4)

▶ June (4)

▶ May (7)

▶ April (15)

▶ March (8)

▶ February (3)

▶ January (6)

▶ 2021 (53)

▶ 2020 (56)

▶ 2019 (28)

▶ 2018 (57)

▶ 2017 (82)

▶ 2016 (16)



- <https://scccyber.blogspot.com/2018/04/cutting-cord-considerations.html>
- <https://www.sctexas.org/Files/Library/31008/SECURINGAHOMENETWORK.PDF>
- <https://vimeo.com/747789422>
- https://www.sctexas.org/club/scripts/library/view_library_list.asp?GRP=26382&NS=MEMFAC&MFID=29653&MFCODE=SIG_IOT
- https://www.sctexas.org/club/scripts/memfac/memfac.asp?NS=MEMFAC&MFCODE=SIG_ID

References



The End



- Helpful < - > Harmful
- Awareness, Preparedness, Understanding

Computer Club, Help Center, SIGs,
Presentations, Classes,
Cyber Security SIG meetings, NEWSBLOG
Internet

- Questions, suggestions, comments?

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