



Software Developers/Coders
Disguised As
Network Operators

Talk's Origins

NANO72
Hackathon



“LTE and Mesh Networks in the Stratosphere “

By Brian Barritt

“Days Of Network Operators \neq Software Developers/Coders Are Numbered!”

So, Is This Statement True And If So How Can It Be Substantiated?



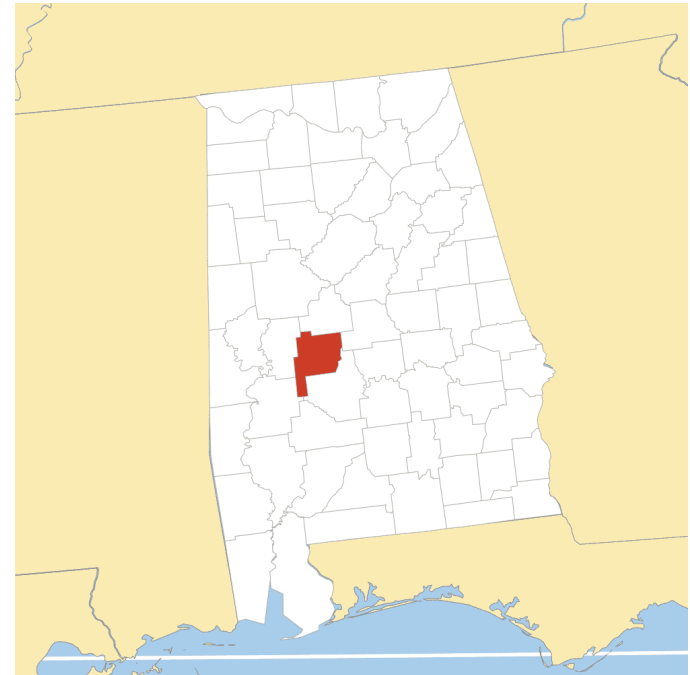
Traditional Network Operations
Has Become



A For Instance... & How Can These Issue Types Be Resolved Easily Without Writing Code?

- Small Healthcare Office – **Staff Of 4(Max)**
- Typical Support Call – “Internet Down”
- No Alerts Via Our Network
Gateways/Switching/Wireless Platforms
- Extensive Real-Time Review Of Available Data Revealed Nothing Obvious
- **18 Hours** Of Probe/Log/pcap Data Gathered/Created **Just Over ½ Million Data Points**
- **98 Instances/Occurrences/Data Points** Of Culprit Phenomena **(.019%)**

NETELYSIS™



Which Language(s) & Which Platform(s)?



IEEE Spectrum
FOR THE TECHNOLOGY INSIDER



KNOW YOUR DATA

Which Language(s) & Which Platform(s)?

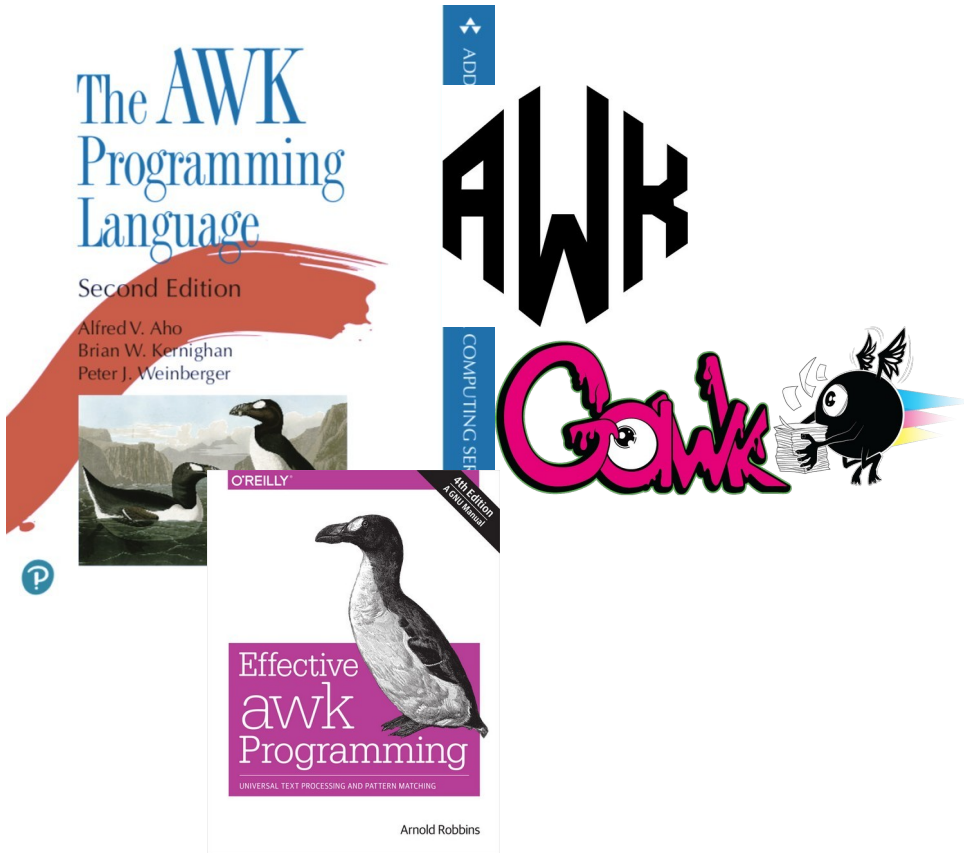


Why? Results of Nerdy Sleuthing

(Break Apart, Determine How It Works – What's Inside?)



As An Example... & Why *awk(gawk)*?



Language Heavily Driven By Pattern Matching ie

- /Pattern/ {Action}

Unfortunately Most Users Become Enamored With *awk*'s One Liner Code Snippets.

Provides A Fully Featured Structural Programming Language That Is Procedural In Scope. **It Includes:**

- Functions & Subroutine & Conditional Statements
- Multidimensional/Associative Arrays
- Extended **egrep** Type Regular Expressions Capability
- Full Featured Optimize and Debugger

DOES NOT EASILY CHOKE When Working On Larger Data Sets



B.1) CLI - Show Commands Redirections

EOS CLI supports the following “show” command redirections, by “|” (pipe): LINE Filter command by common Linux tools such as **grep/awk/sed/wc**

Examples:

Collect the interface names and the corresponding IP addresses (for all interfaces) to a file:

```
Arista#show int | awk '/^[A-Z]/ { intf = $1 } /Internet address is/ { print intf, $4 }'
```

Collect all MAC addresses to a file:

```
Arista#show int | awk '/^[A-Z]/ { intf = $1 } /Hardware .* address is/ { print intf, $6 }'
```

A Few Other Tools To Consider



CVS





NANOG 92 Hackathon

- **Friday, 11 October 2024** - Intro/Infrastructure Tutorial/Team Formation
- **Monday, 21 October 2024 + Tuesday, 22 October 2024** - Competition

More Info: <https://nanog.org/events/nanog-92-hackathon/>

Questions??



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