



Keeping Your Medical Center CIO Engaged

Using Splunk to increase real-time IT operations transparency and create insights into clinical/patient data

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Michigan Medicine

At University of Michigan



Michigan Medicine

Who we are and what we do...

- ▶ 3 Hospitals (1,000 Beds)
- ▶ 26,000 Staff
 - 2,700 Faculty
 - 5,000 Nurses
 - 1,200 House Officers
 - 708 Students
- ▶ 40 Outpatient Locations
 - 120 Clinics
- ▶ Outpatient Visits – 2,320,254
- ▶ Inpatient Discharges -48,793
- ▶ ER Visits – 104,219
- ▶ Surgical Cases – 54,342
- ▶ Deliveries - 4,400
- ▶ Survival Flight Visits – 1,227



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The Use Of Splunk

at Health Information Technology & Services

CIO Dashboards

A Splunk Use Case for CIO real-time single pane-of-glass

Background Story

Once upon a time, when your CIO gets a new office in the C suite ...

- ▶ **Project Summary:** Display multiple clinical and IT dashboards in a single display
- ▶ **Project Goals:** Expose Michigan Medicine Leadership to real time, actionable data regarding IT and Clinical Operations to demonstrate the power of dashboards and analytics
- ▶ **Business Values:** “Wow” factor aside, attract visitors attention, funding and collaboration opportunities
- ▶ **Hardware:**
 - Standard managed PC
 - 4k monitors
- ▶ **Additional Software:**
 - Windows Manager
 - Display Fusion

Overview Of What We Did

► Non-Splunk dashboards:

- Epic Executive Dashboard
- Epic Monitor
- Alertwatch
- Business Objects
- Tableau
- Aspect real-time monitor

► IT/business related dashboards:

- Remedy Ticketing
- Huddle board
- Major Incident
- Sitescope

► Clinical/Research related dashboards:

- Diabetes Registry
- NIH word clouds
- Epic User geotagging
- Epic patient geotagging

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130.60.4 - - [07/Jan 18:10:57:153] "GET /category.screen?category_id=GIFTS&JSESSIONID=5D15L9FF10ADFF10 HTTP 1.1" 404 720 "http://buttercup-shopping.com/cart.do?action=view&itemId=EST-6&product_id=FI-5W-03"
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Remedy Dashboards

► Challenges

- Unified service delivery view

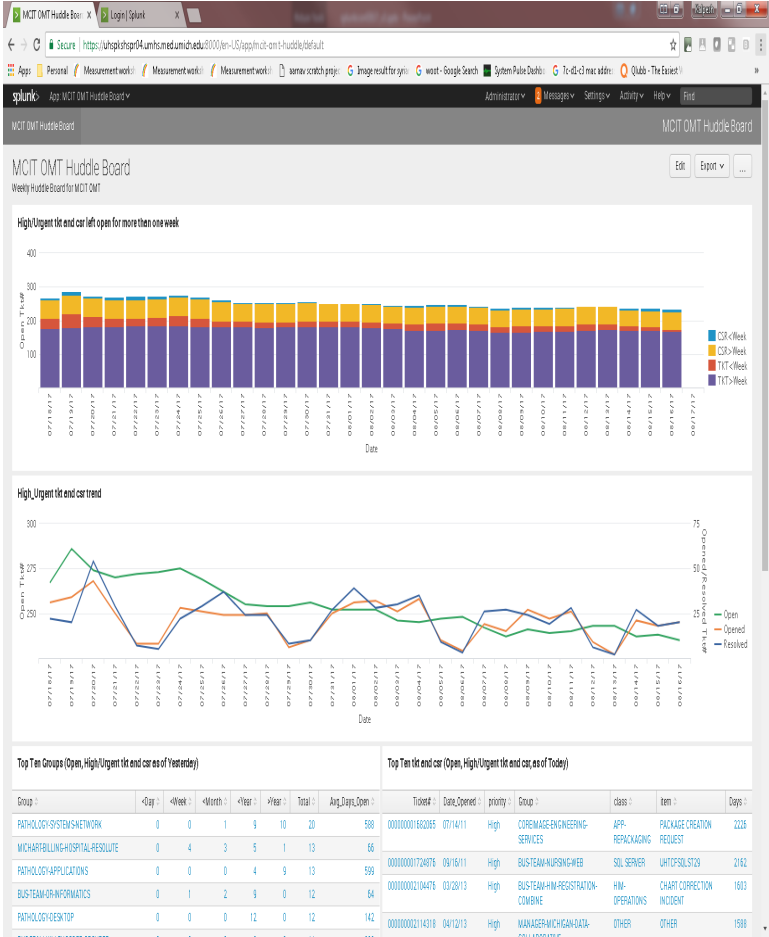
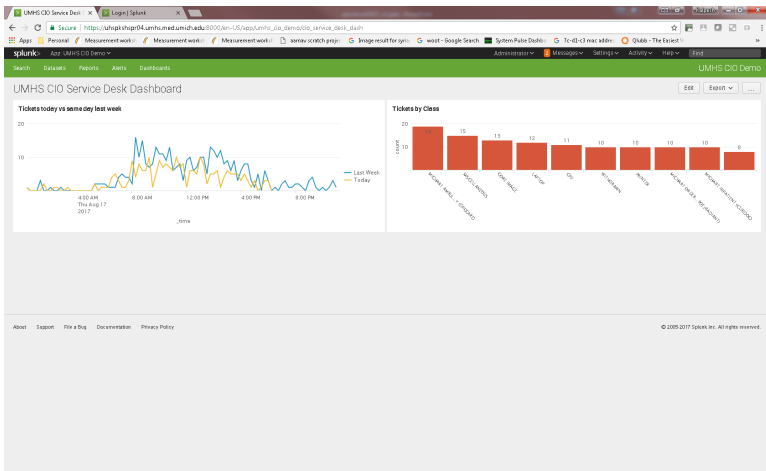
► Business Impact

- Continued high level of customer service and optimized customer experience

► Data Sources

- Remedy data using DBconnect 1.x
- Full incident database snapshot every night

• Tail for updates



Patient Portal

► Challenges

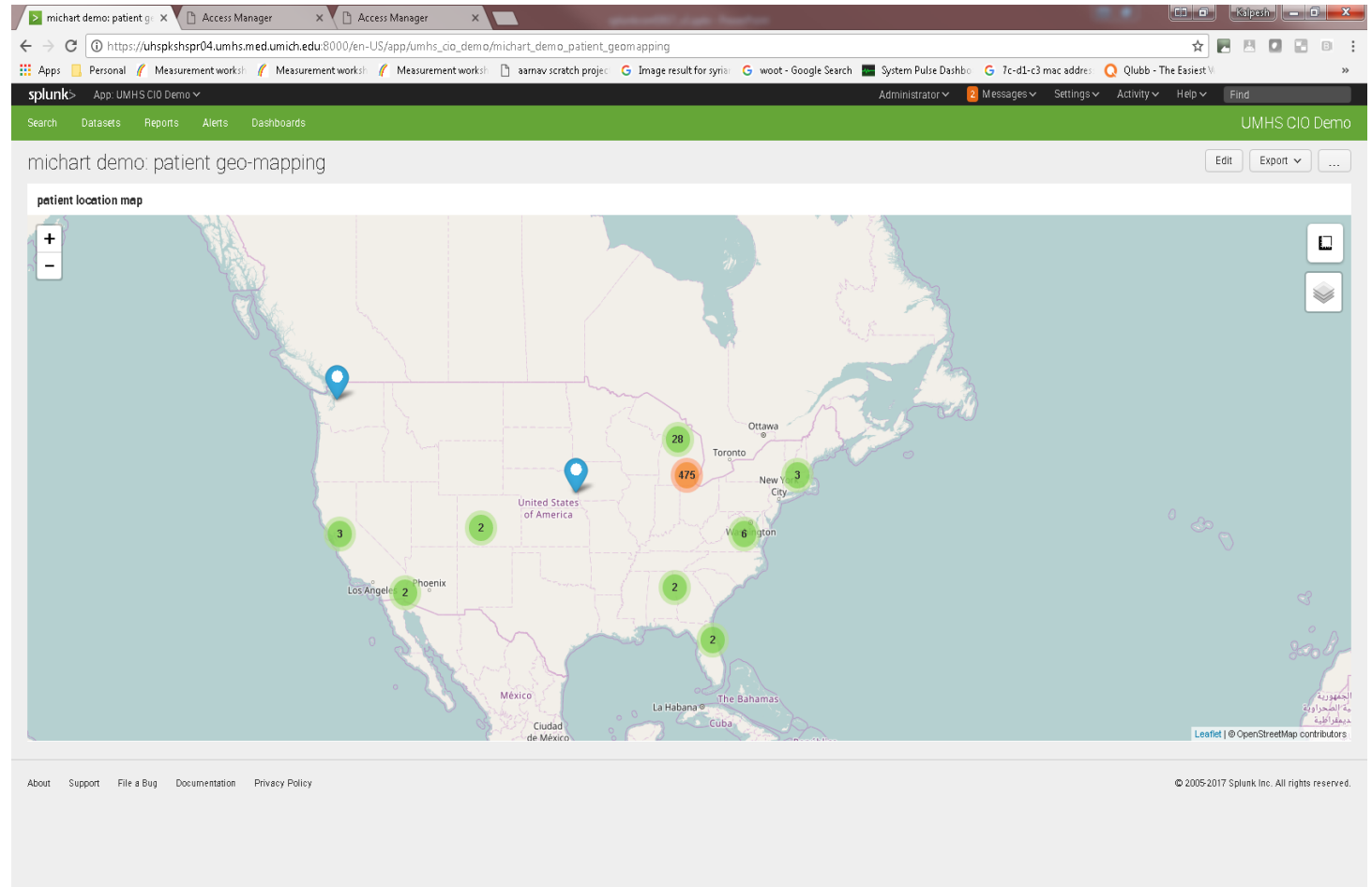
- Required to comply with PCI mandates
- Needed to ensure continued superior customer experience
- Inefficient processes for data analysis

► Business Impact

- Operational efficiencies
- Enhanced PCI compliance

► Data Sources

- Web server data
- Firewall data
- IPS data



Other Use Cases

In Production

Network Admission Control

► Challenges

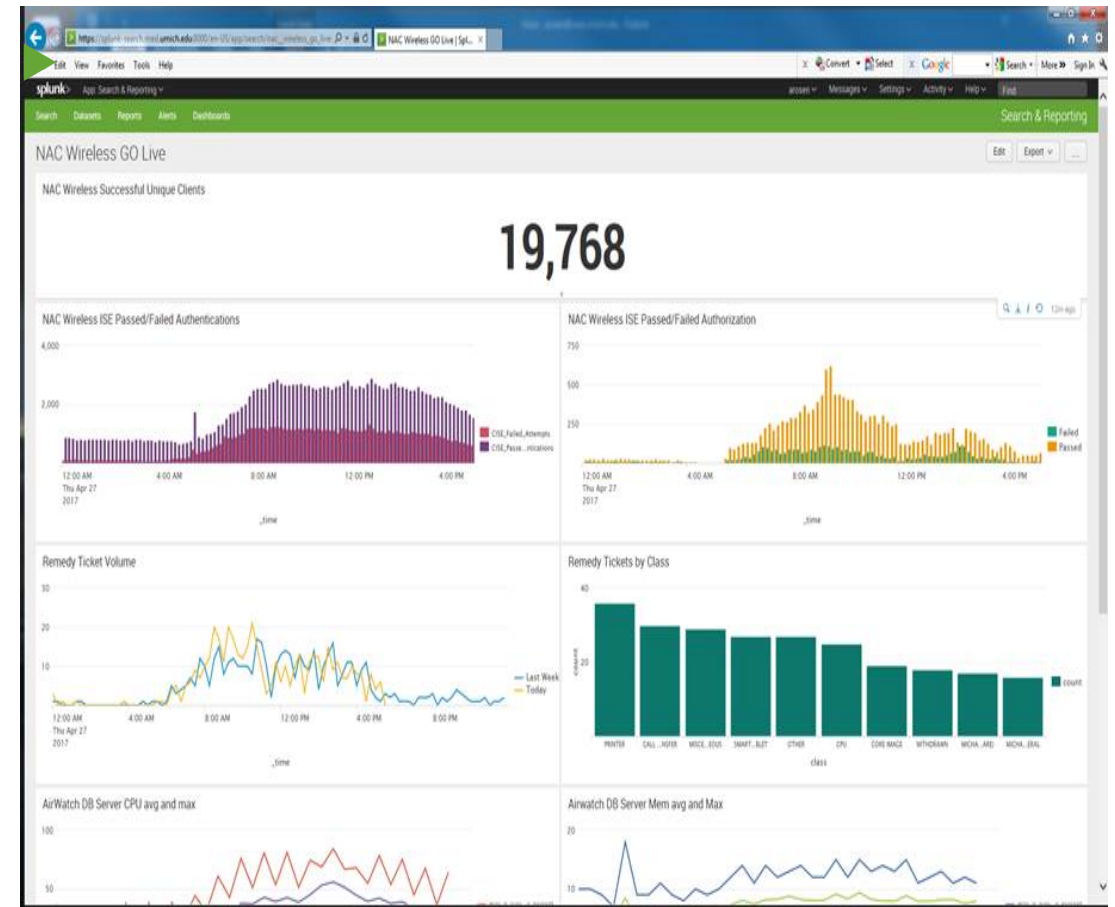
- Streamline Wired/Wireless NAC deployment across the enterprise

► Business Impact

- Operational visibility during NAC deployments

► Data Sources

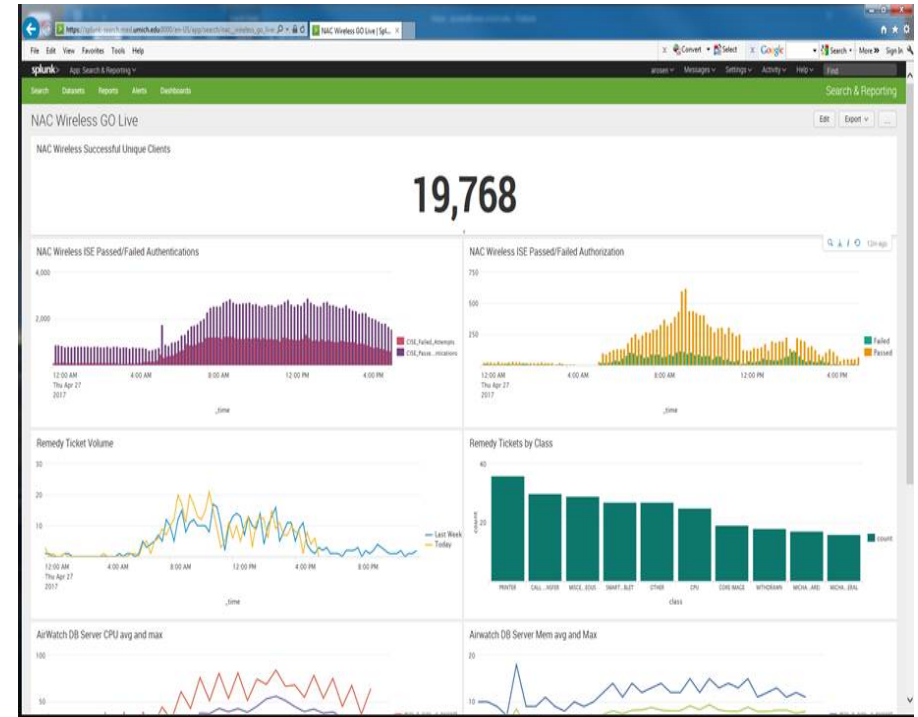
- Inventory
- Cisco ISE data/Prime data
- NAC portal logs
- Airwatch Server data
- Remedy data



Use Of Dashboards During NAC Go Live

Email from our CIO to our C-Level executives

- ▶ NAC go live went very well today. This was the culmination of 19 months of work!
- ▶ As you can see from a screen shot of our real-time analytics, we were close to 20,000 unique users by end of day. (As an aside, the use of these real-time data/analytics tools are great examples where we could use them and other tools for our other clinical/operations.)



▶ Andrew

Thank You

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