
# Mainframe Products Updates

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May 29, 2018

# Presenter

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*Maggie has worked at Syncsort for almost 20 years, her focus has been on the development and research of high performance mainframe data processing products.*

ENTERPRISE Executive

2016: ISSUE 6

WWW.ENTERPRISESYSTEMSMEDIA.COM

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CIOs. Are You REALLY Paying LESS by Using x86 Platforms?

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Mainframe Meets Machine Learning

By Zhe "Maggie" Li

"The mainframe is dying." I can't remember when I heard that for the first time, or how many times I have heard something similar since. Suffice it to say, it was a long time ago and I've heard it many times. As we all know, the mainframe is alive and thriving. In fact, the mainframe has evolved to ensure its foundational role in new trend after new trend. We went through the era of distributed computing. Now we are going through the era of mobile computing and cloud computing.

Almost like a miracle, the mainframe is still there, playing a central role as the hub of customer information and high volume transaction processing at many of the world's largest companies. However, today's mainframes are facing new, significant issues and challenges of which security and automation of operations are among the greatest.

**Does Mainframe Security Go Far Enough?**

Why do I think security is an issue for mainframes? More than 80 percent of corporate data resides on or originates from mainframes today. And data on a mainframe is typically the most valuable data for the enterprises. Mainframes used to be perceived by many as being highly secure and immune to attacks and data breaches because they are centralized and somewhat isolated from the rest of the world. In fact, in a 2016 "State of the Mainframe" study (http://www.bit.ly/2fPBVeQ), polling 187 respondents, including IT strategic planners, directors/managers, architects and administrators at global enterprises with $1B or more in annual revenues, the study found that 83 percent of respondents cited security and availability as key strengths of the mainframe, respectively. But strangely this is no longer an accurate perception, times have changed.

In today's world of connecting "Big Iron" to "Big Data" for advanced business analytics, mainframes are connected to mobile and IoT devices, clouds and other open systems, making them subject to external attacks just like distributed systems. At the same time mainframes are also subject to

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# Introducing Syncsort

## Global leader in Big Iron to Big Data

*Big Iron to Big Data* is a fast-growing market segment composed of solutions that optimize traditional data systems and deliver mission-critical data from these systems to next-generation analytic environments.


Royal Bank of Canada · Barclays Capital · Lloyds Banking Group · Intesa Sanpaolo · Capital One · Regions · Broadridge · HSBC · BBVA Compass · MasterCard · JPMorganChase · BNP Paribas · Guardian · Progressive · The Hartford · Nationwide On Your Side · CVS/caremark

Boeing · GM Financial · IHG InterContinental Hotels Group · HCA · Porsche · Volkswagen · Sprint · Time Warner Cable · Thomson Reuters · CenturyLink · verizon · experian · comScore · Lowe's · macy's

Headquarters: Pearl River, NY

**U.S. LOCATIONS**

- Burlington, MA; Irvine, CA; Oakbrook Terrace, IL; Rochester, MN

**GLOBAL PRESENCE**

- U.K., France, Germany, Netherlands, Israel, Hong Kong & Japan

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If you have specific questions on how this may affect your organization you should consult your legal advisor.

# Agenda

1. Mainframe Data Security – MFX SORTWORK Encryption
2. Access & Integrate Mainframe and IBM i Machine Data
3. Ironstream® for z/OS Release 2.1
4. Ironstream® for IBM i Overview
5. Capacity Management with Athene®

# Mainframe Data Security: MFX SORTWORK Encryption

# Release 3.1 Updates


## OUTREC to INREC

- Data Manipulation feature
- When to use INREC vs OUTREC
- Automated conversion when appropriate

## JOIN

- Complicated function
- Improved communication and coordination
- Lots of potential for improvements

## Block Level Exits

- Less record level overhead
- Better cache efficiency

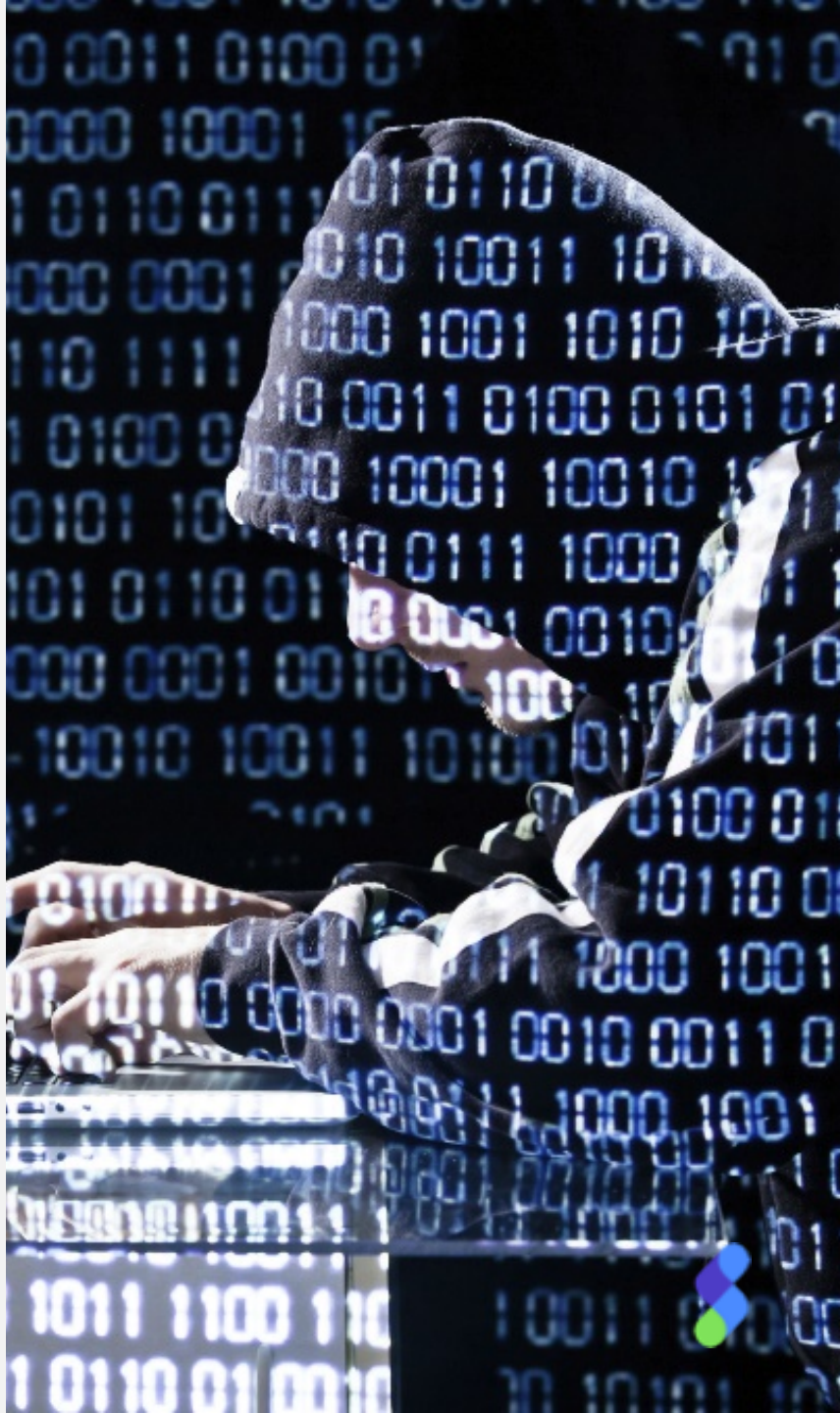
## Message Exit

- Post process of sort msgs
- Allows for local language support
- Accept, modify, delete, insert

# Data Privacy & the Mainframe

## GDPR

- What is it?
- Why is it important to me?
- “We are not a European company”



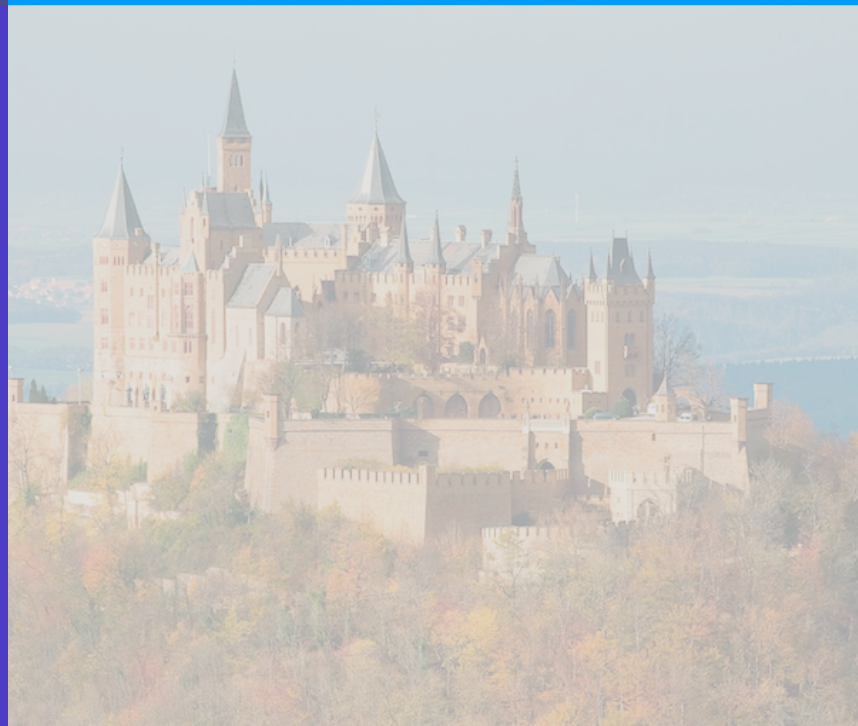
# Mainframe Security

z/OS is a very securable environment and z14 was designed with security in mind but…

z/OS is not 100% secure from external threats…

…even if it was, it would not protect against internal threats…

…even if it did, the law doesn’t distinguish among environments



# SORTWKs and User Data

- SORTWK data is not encrypted
  - Can’t be protected
  - Application data can be easily identified
- MFX will be able to encrypt SORTWK
- There is a cost for encryption
  - …but there is a cost by not encrypting
- ZPSaver can reduce cost by moving work to zIIPs

# Access & Integrate Mainframe and IBM i Machine Data

# Analyze Machine Data with platforms like Splunk and Elastic

## Without log data from mainframes and IBM i servers, you have a significant blind spot

- Your “single pane of glass” misses security and operational data from the critical systems that run your enterprise
- It’s harder to detect and fix security and operational issues that disrupt your business
- Point solutions lead to inefficiencies and potential skills issues for legacy systems

Meet SLAs and deliver critical business services

Detect and prevent security breaches and threats

Address compliance mandates and pass required audits

Proactively avoid outages that disrupt the business

# Challenges of Including Legacy Data in Your Analytics

## So many data sources

### Mainframe

- Systems Management Facility (SMF), Syslog, Log4j web and application logs, RMF, RACF, USS files and standard datasets

### IBM i

- QAUD Journal, QHIST, Message Que, Operational Logs

*With millions of records generated daily!*

## Complex Data Formats

### Mainframe

- Complex data structures (SMF) with headers, product sections, data sections, variable length and self-describing
- EBCDIC not recognized outside of the mainframe world
- Binary flags and fields

### IBM i

- Complex data structures with unique journal entry types, headers, product sections, data sections, variable length and self-describing
- IBM i journals in DB2
- IBM i information needs to be converted to workable formats such as Syslog, CEF, JSON, etc.

## Not timely, detailed enough

- Not real-time
- Typically have to wait overnight for an offload
- Daily FTP upload/downloads aren't granular enough

# Ironstream® is the leading solution to forward z/OS and IBM i log data to the Splunk and Elastic platforms

- Security and Compliance/ SIEM -- Pass your audits
- IT Operations Analytics/ITOA – Meet operations SLAs
- IT Service Intelligence/ITSI – Ensure services health

Supports the most z/OS and IBM i data sources in the industry

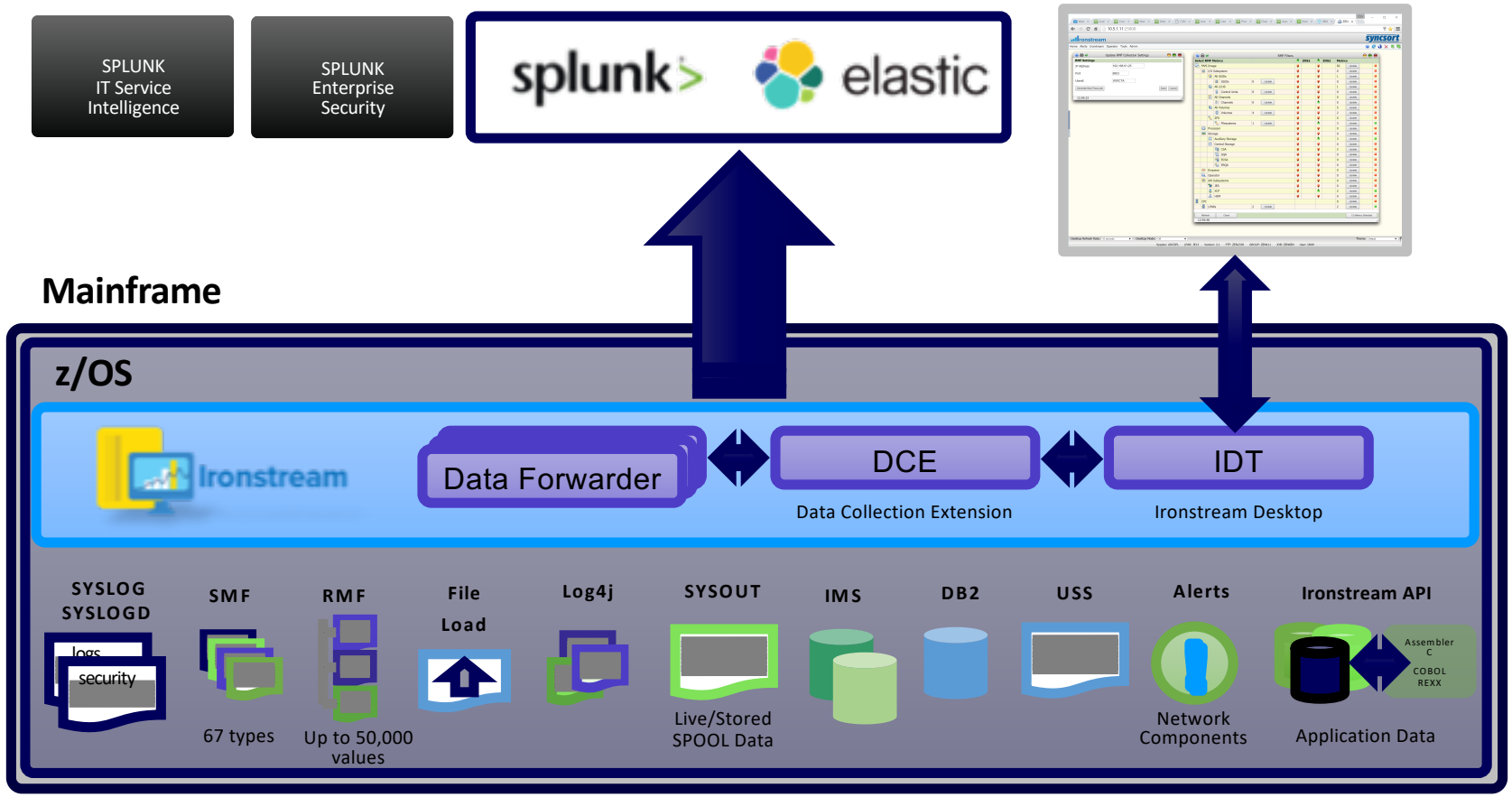
More than 50 successful customer engagements

Consolidate or eliminate custom tooling to save time and money

Provides a true 360-degree view of your enterprise security and operations

# Ironstream® for z/OS Release 2.1

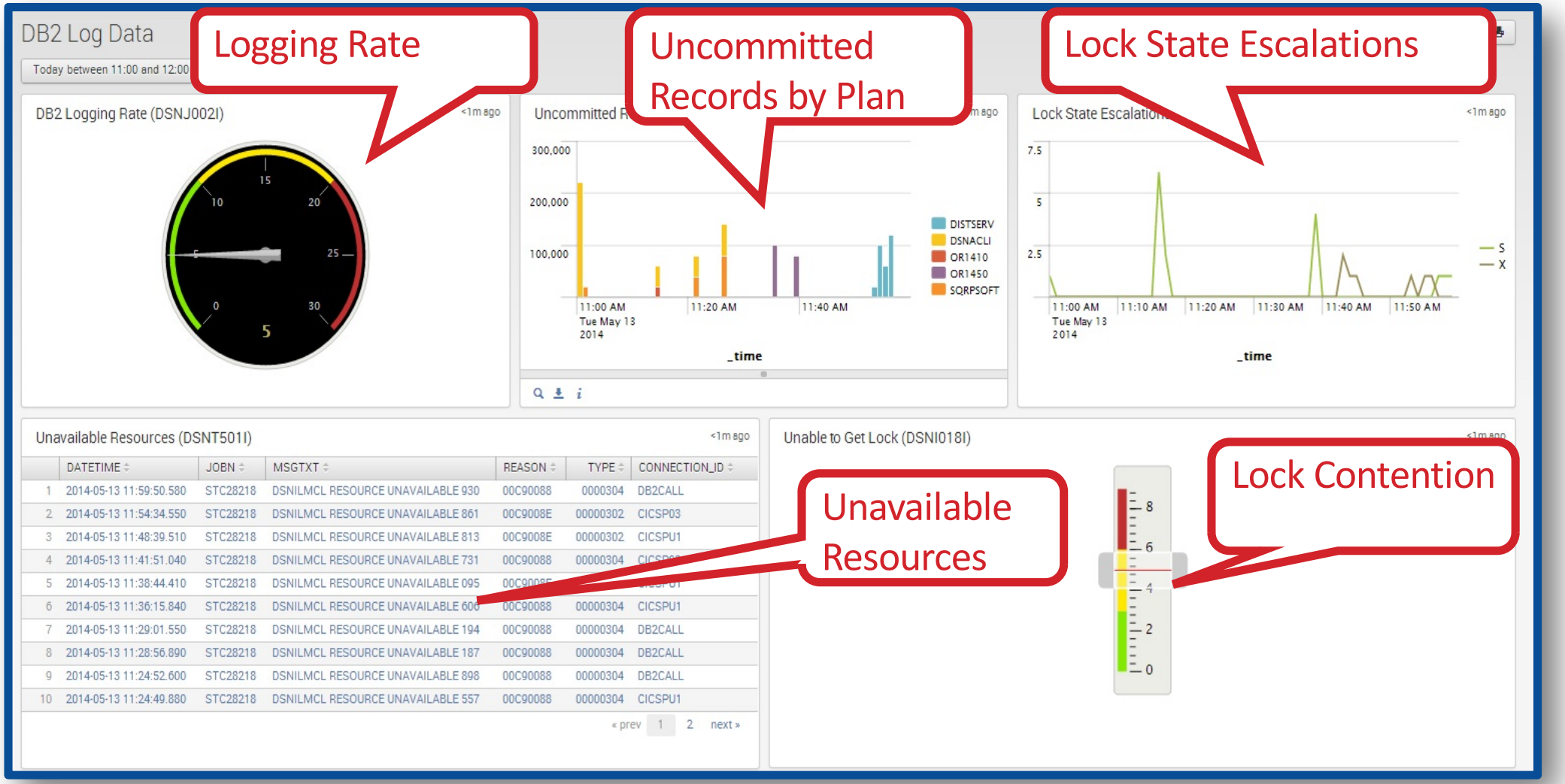
# How Ironstream Works



# Ironstream® for z/OS Release 2.1 New Features

- Log forwarding to Elastic Stack (Logstash)
  - All data sources supported by Ironstream may be forwarded to Logstash
  - Filtering of log data prior to forwarding
  - Sample Kibana dashboards are included
  - Transport is TCPIP or HTTP/HTTPS
  - Simple installation and configuration
- IMS Log Forwarding
  - For mission critical applications that need to be monitored for operational, security, and regulatory compliance, Ironstream now provides support for IMS logs
  - Collection may be synchronous or asynchronous
  - Critical log records for monitoring performance, capacity utilization, throughput, and resource utilization are captured and forwarded to Splunk or Elastic for reporting purposes.
- SMF Logstream Collection
  - New SMF record gatherer that uses the SMF INMEM resources and SMF real-time API
  - This feature enables asynchronous collection of SMF data for certain situations with very high transaction rates which could, in real-time, impact the performance of the application

# DB2 Performance Monitoring



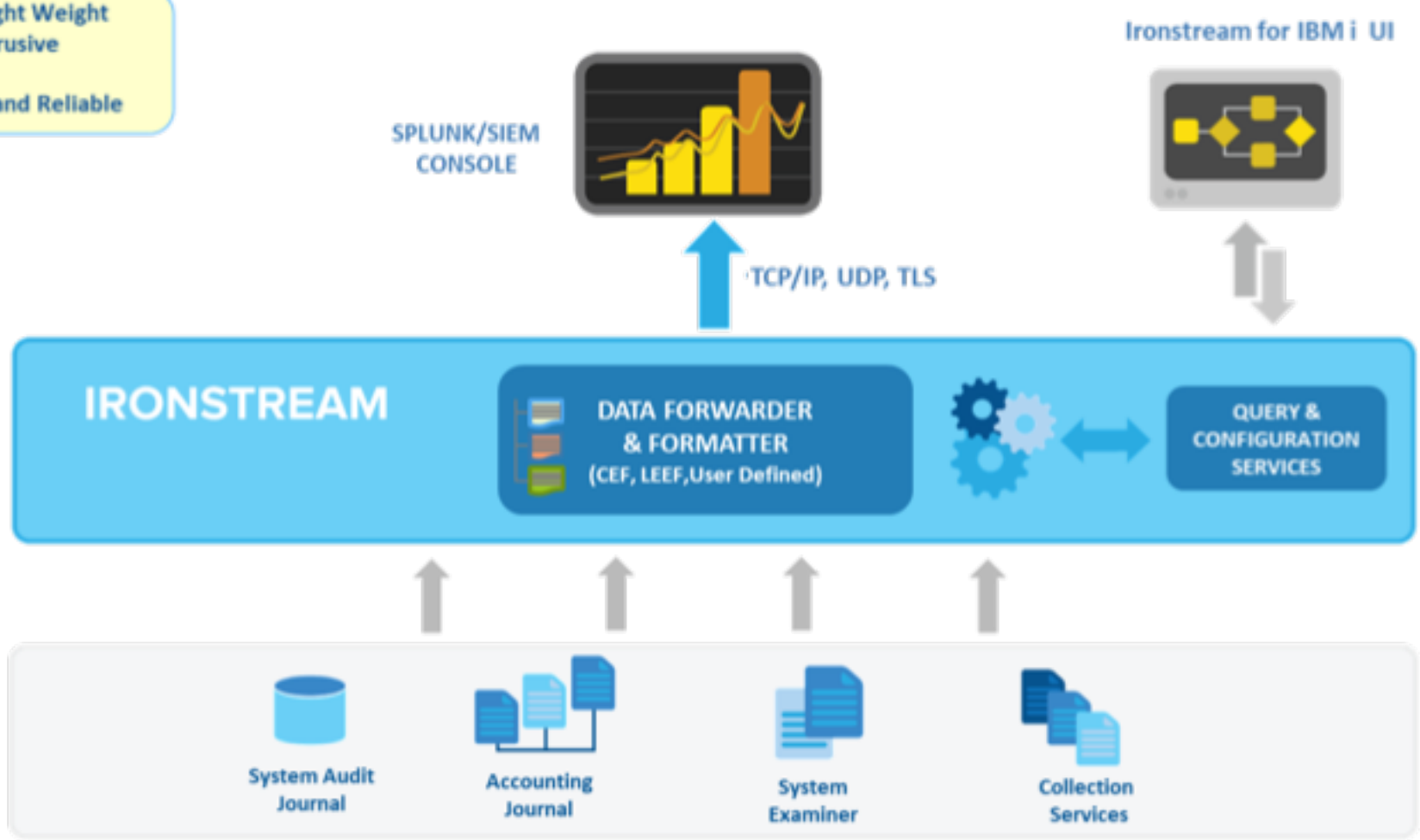
# Ironstream® for IBM i Overview

# Ironstream® for IBM i Overview

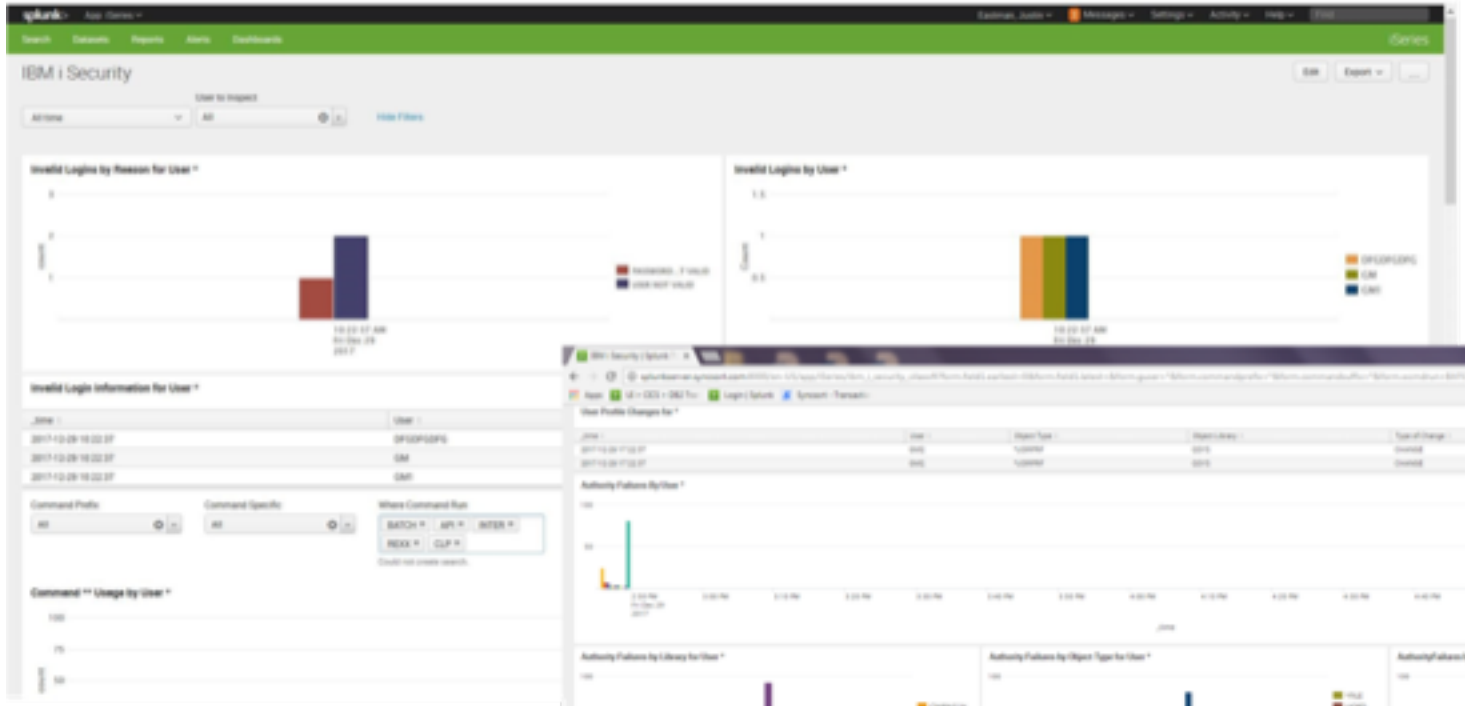
- Ironstream for IBM i (IS4I) product is a new product from Syncsort Inc that will be GA in Q3 2018
- Ironstream for IBM i will format and forward this data to Splunk and other SIEM solutions for Log Analytics
- Security & compliance (SIEM) and IT operations analytics (ITOA) use cases will be supported by the log data available
- We have already seen interest for this requirement from a number of customers and are accelerating our product launch plan

# Ironstream® for IBM i - Architecture

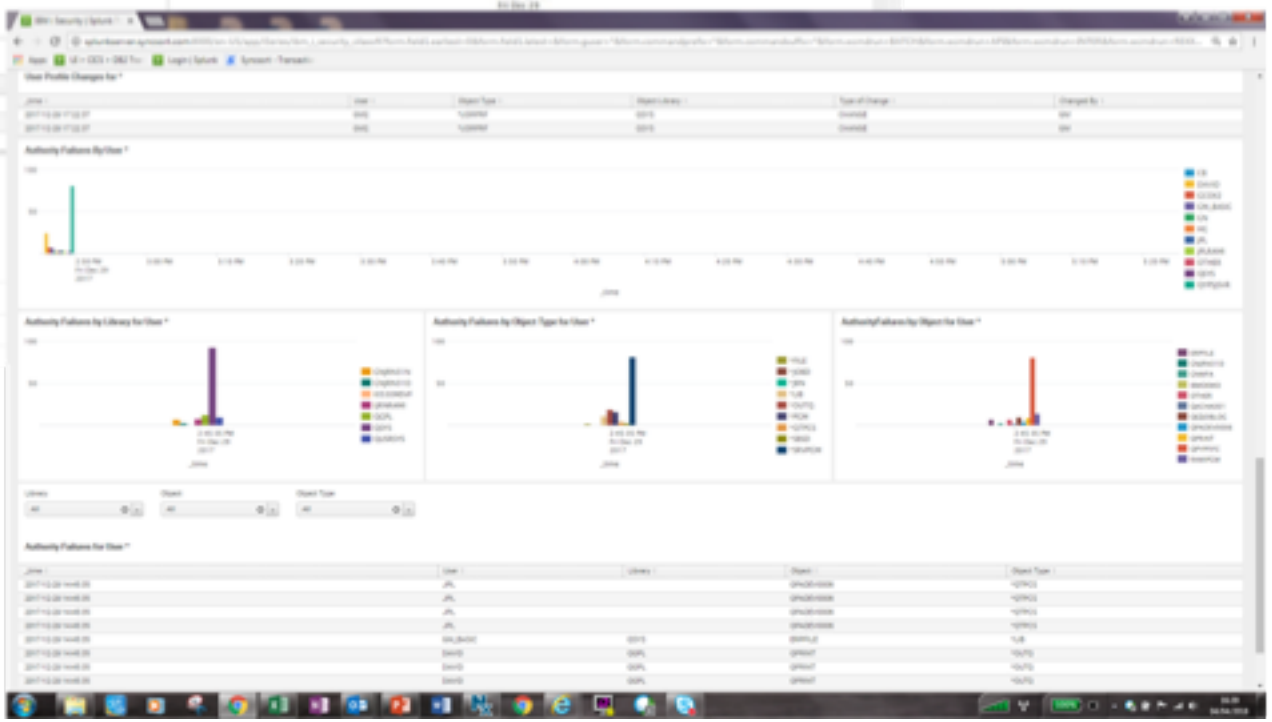
- ✓ Ultra Light Weight
- ✓ Non-intrusive
- ✓ Fast
- ✓ Secure and Reliable



# IBM i Security Data – Example Splunk Dashboard




Invalid Login Attempts



Object Authority Failures

# Capacity Management with Athene®

# Benefits of Capacity Management

## Implementing or maturing capacity management enables organizations to:

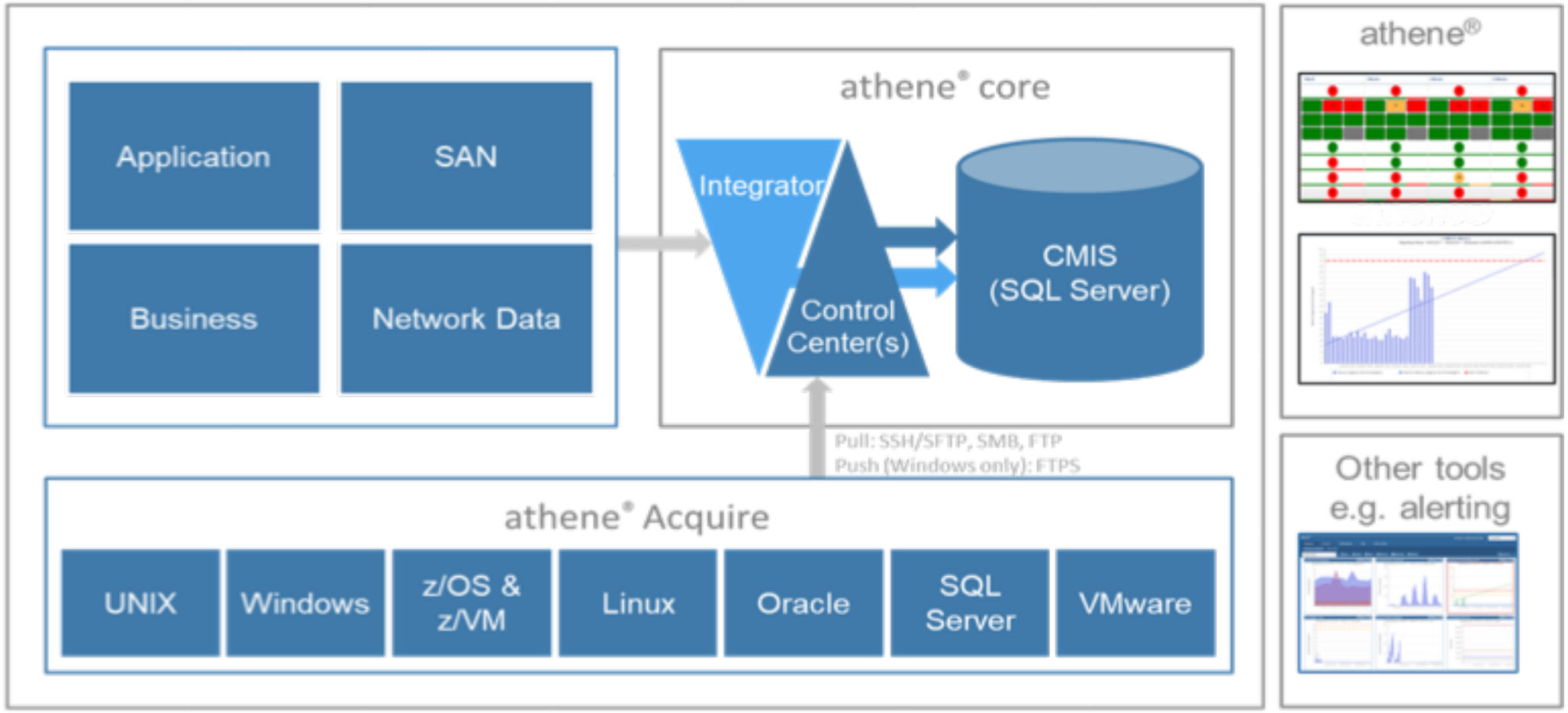
- Configure their infrastructure accurately by purchasing hardware strategically, just-in-time
- Avoid capacity incidents by knowing historical data and predicting the future
- Achieve maximum ROI by ensuring business forecasts and plans drive IT decisions

# Athene Capacity Management

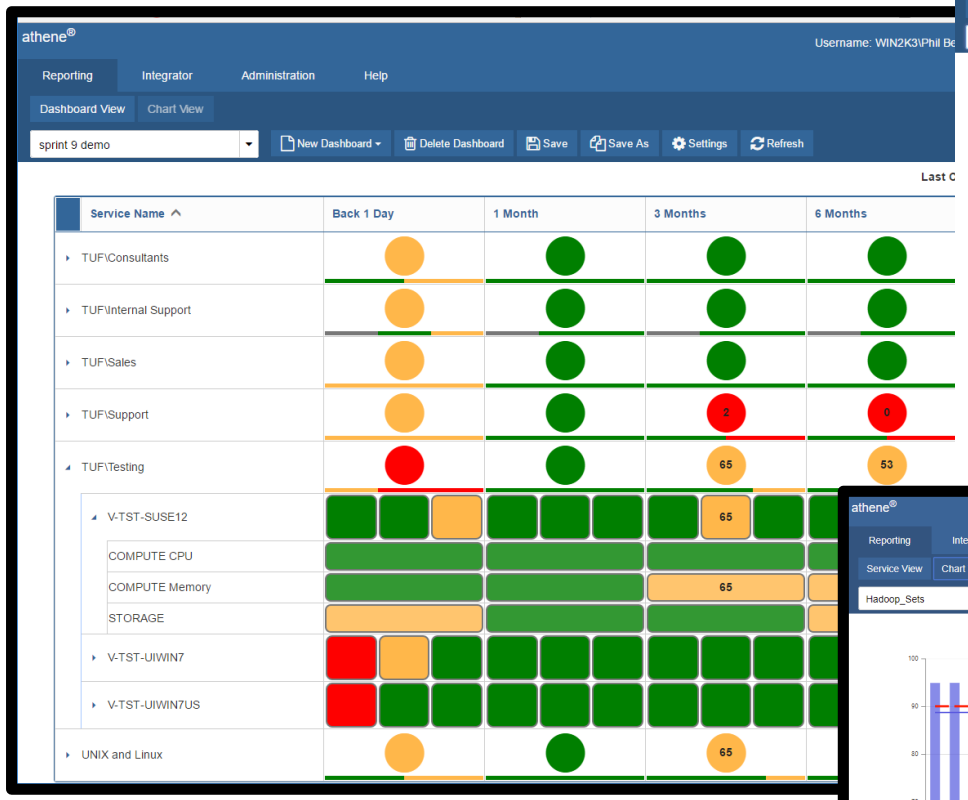
The world's most scalable capacity management software for physical and virtual environments.

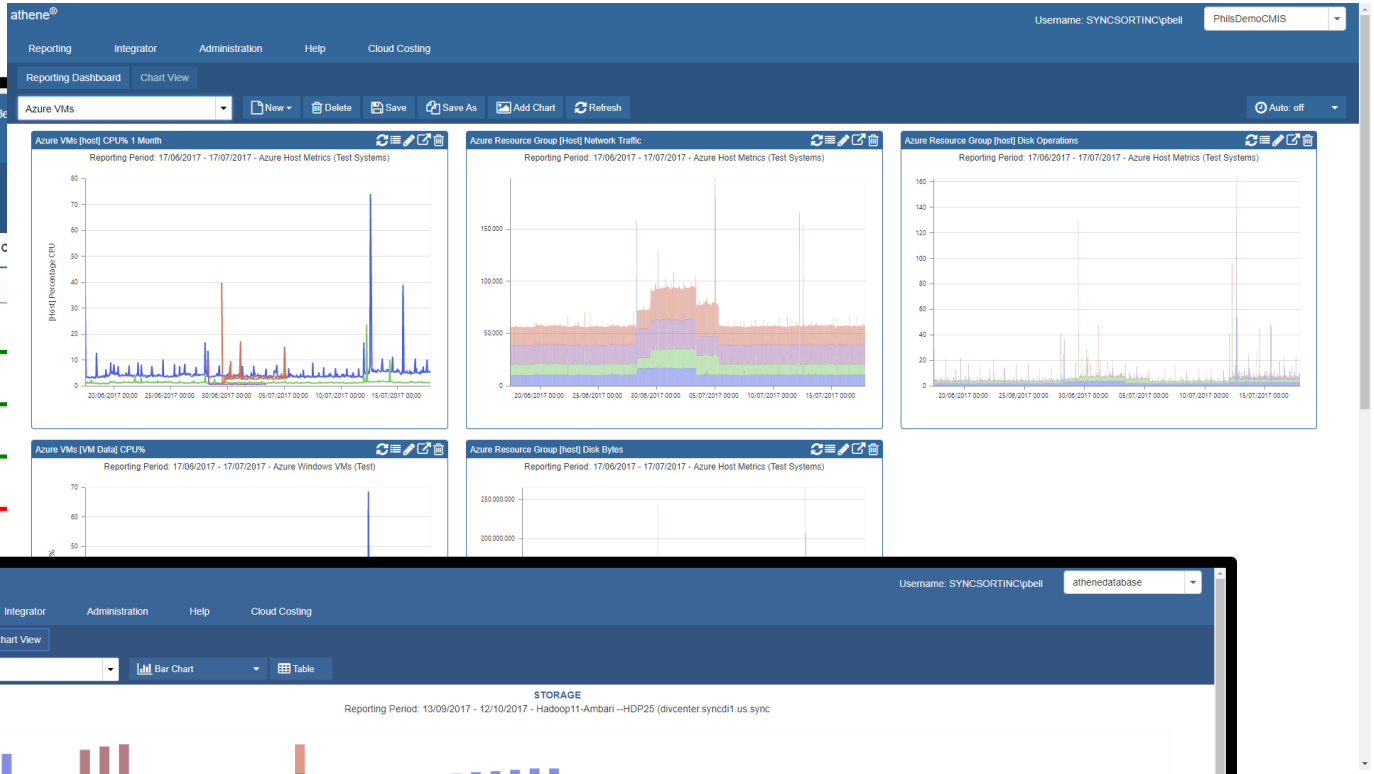
- Bringing metrics from across the enterprise to one place
  - Athene covers all major platforms including:
    - z/OS
    - IBM i
    - VMWare
    - Unix
    - Linux
    - HP
    - Windows
    - Others
- 360° view of your service and infrastructure
- The most cost-effective product in its class

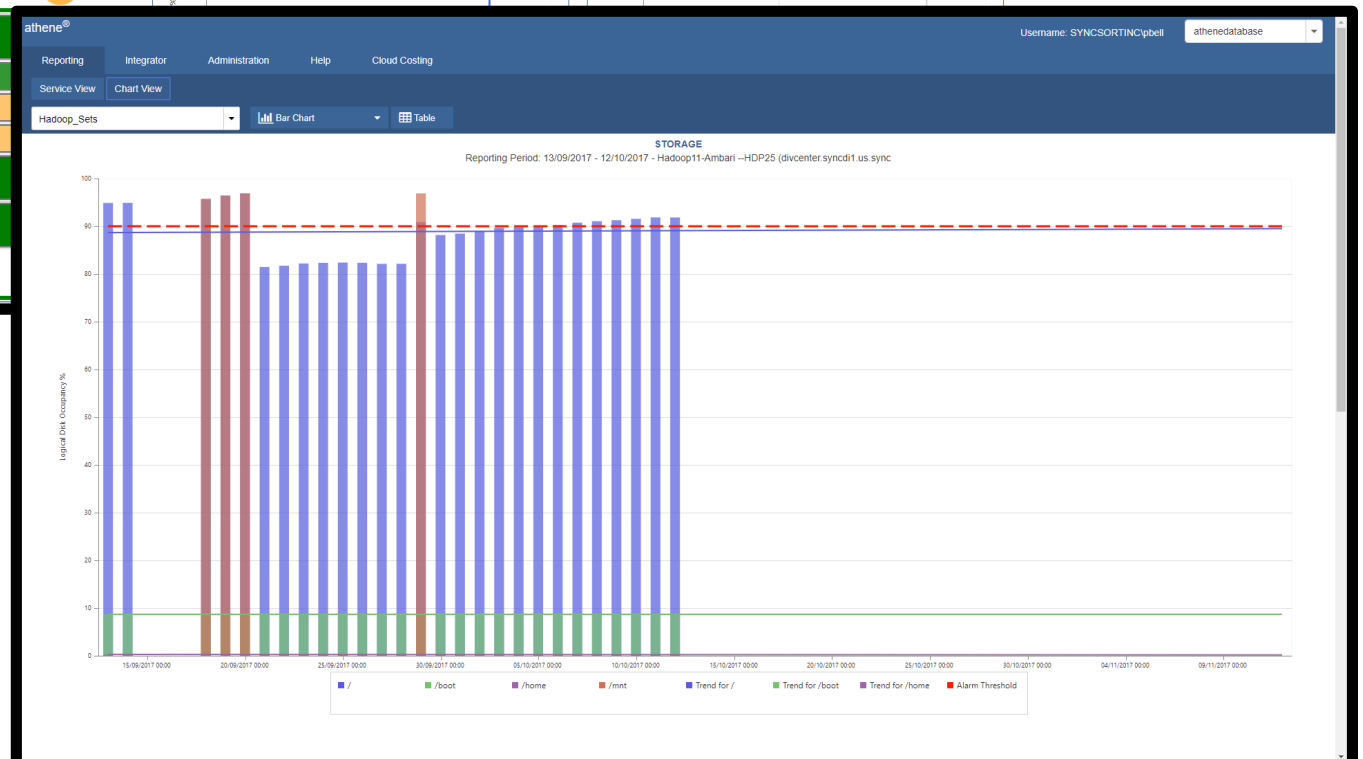
# Athene - Architecture



# Sample Dashboards



# Athene - Capacity and Performance Management

## Athene

- Relied on by the world's leading companies
- Automates the capture and storage of data and the creation of capacity reports
- Provides predictive analysis to help with sizing of infrastructures today and in the future
- Includes the mainframe, IBM i, Unix, Windows, storage, business, financial data, and more

## Athene Cloud

- World class solution without the need to provision, maintain and manage Athene hardware
- Secure transfer of data from your environment to Athene® in the cloud
- Ongoing management of historical data
- Optional services can help organizations start or augment a Capacity Management process

## Syncsort Professional Services

- Provides capacity management expertise to help organization best manage capacity and achieve maximum ROI
- Creates capacity reports, capacity plans, and strategic recommendations to those organization needing that expertise or staff augmentation
- Leverage Syncsort's expertise – our consultants have decades of experience

# Questions


syncsort
advancing data