

caWorld¹⁰

are you drowning in
SMF data?

MR110SN

Mainframe and Application Development

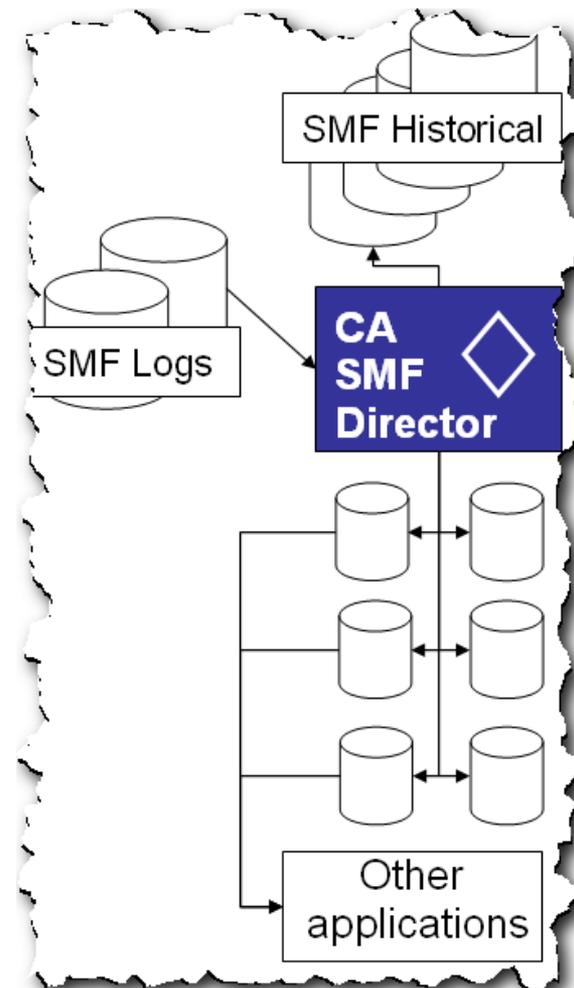
we can



Data is growing; staffing to manage it is shrinking. What can you do? In this session, you will learn how to manage the new challenges as SMF data management has evolved and volumes have grown. If System Logger and Log Streams are in your future, be sure to attend this session because we will discuss the transition from traditional MAN files to Log Streams. The transition can be easy, but you need to have the right management tools

agenda

- SMF data – got to keep it
- SMF management – challenges
- z/OS System Logger
- Solution overview





System Management Facility (SMF) collects and records detailed information about z/OS mainframe activities

Corporate value

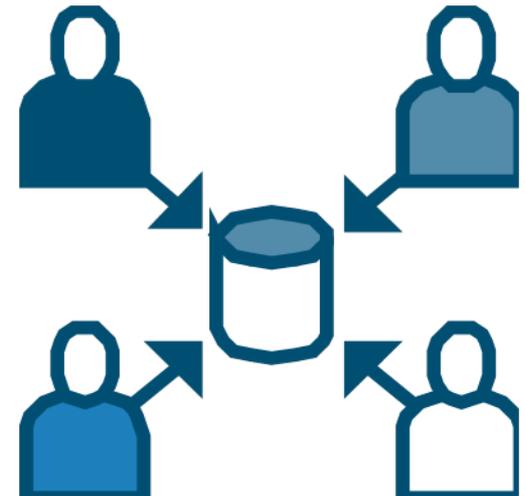
- Record of IT utilization activity
- Primary source for z/OS and sub system management reporting and operational analysis
- Audit data source
 - IT compliance





– Primary data source

- System and subsystem capacity planning
- System and subsystem performance reporting
- Root cause analysis
- Utilization trending
- Database tuning
- Cost allocation / chargeback
- IT system auditing





Mainframe growing pains

- Mission critical – Still the backbone of operations for most large organizations
 - Processing speeds and capacity continuously improving
 - Always on availability is sacrosanct
 - System consolidation
 - Many LPARS
 - Ultimate high volume business transaction processor
 - Increased workloads to support business growth and dependency on IT to deliver business services
- SMF data volumes growing proportionally



1. Data volume increasing dramatically

- Processor power
- DB2 and CICS are examples of large volume data sources
- Millions of records per day for large volume data sources

2. Data redundancy and integrity

- SMF data is an important data source
- Critical to have a “backup copy” of data – offsite.
- Data organization is weak and prone to errors



3. How do I manage my SMF data?

- SMF data files are large by nature
- Dumps occur on multiple systems in most large data centers
- Requirements to keep archived SMF data for extended periods of time on tape

4. Efficient access to SMF data for production use

- Deliver SMF data to management applications
- Minimize resource utilization overhead
- Improve reliability



5. Responding to multiple SMF data requests

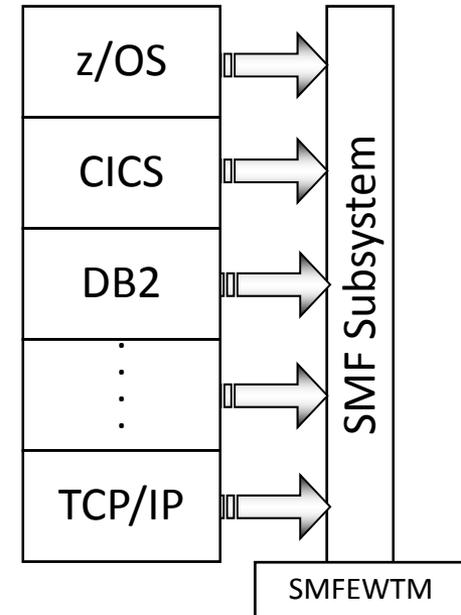
- Must be able to quickly and accurately deliver SMF data in a reliable, efficient and automated fashion
 - May be required during audits
 - May be due to operational requirements
- Need the ability to extract SMF data at a discrete level without intrinsic knowledge of where data physically resides
 - Give me yesterday's data
 - Give me last week's data
 - Give me last month's data

z/OS System Logger

- System Logger introduced in response to loss of data due to excessive data volume
 - Available with z/OS 1.9
- Using traditional MAN files still available
- Most likely customers will stay with this process
 - If it isn't broken.....
 - Yet, future system workloads may dictate the use of System Logger
 - Some feel it is not ready for 'prime time'

z/OS System Logger - available for some time

- Built-in z/OS facility
- Practical use by exploiters
 - Application logging facility
 - Standard interface
- How is it used
 - Funnel-type: archival facility (ex. SMF logging)
 - Active: dynamic use
- Log Streams
 - Writes data to Log Streams



z/OS System Logger – for SMF data

Is it in your future?

- Mainframes getting faster
- Increased workloads
- MAN files can't keep up
- SMF data volumes increasing

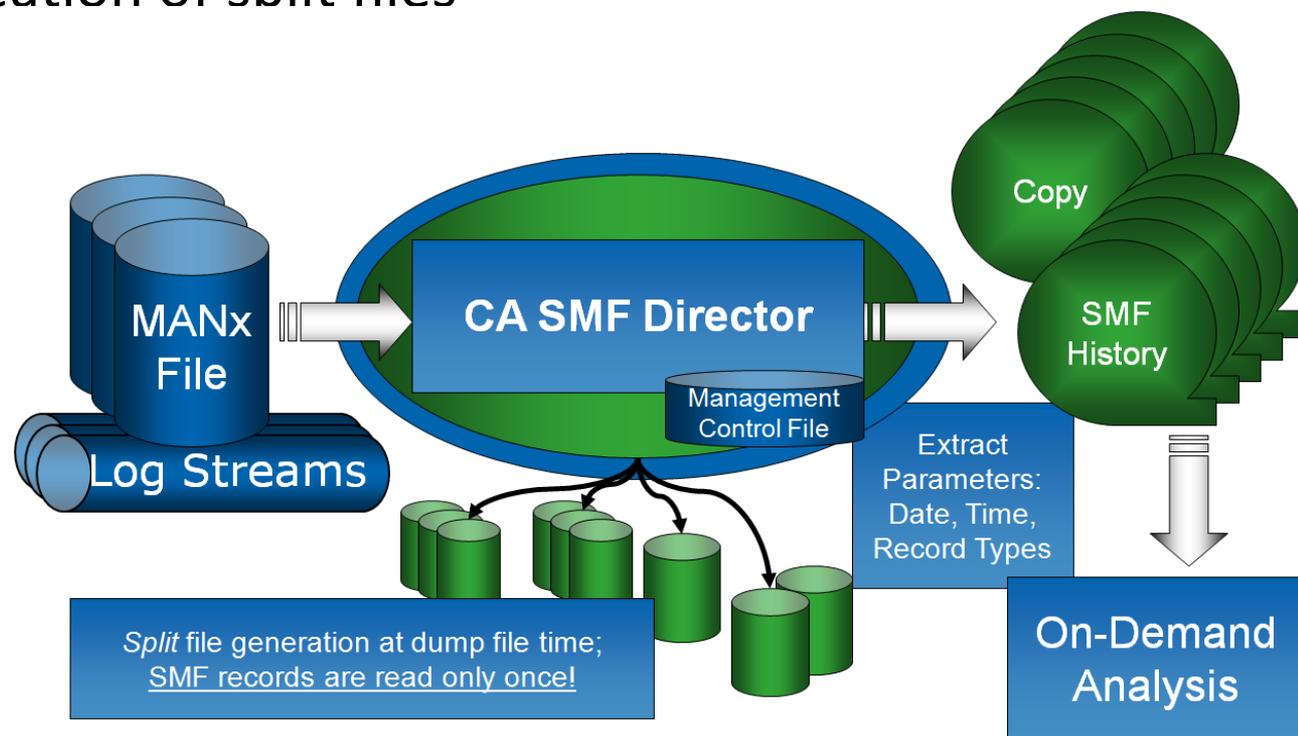
System Logger

- Improves handling of large volumes of data
- Impacts operational environment
- Impacts data archiving
- Introduces manual intervention

CA SMF Director components – automated operations

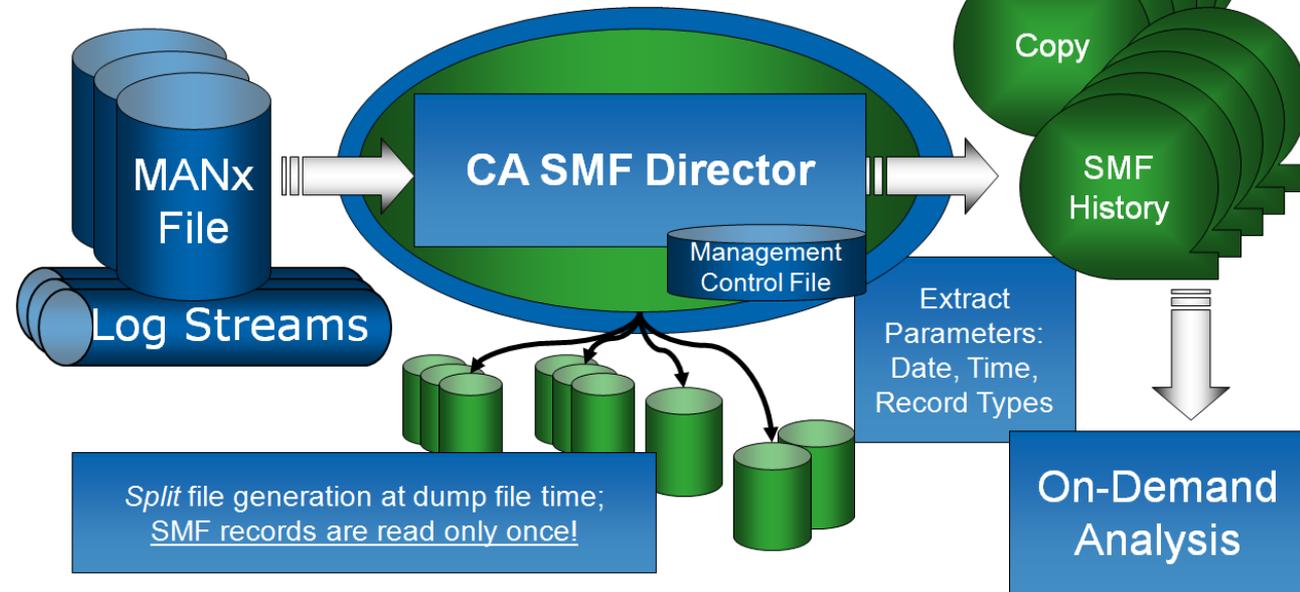


- Automated dumping SMF MAN files & or Log Streams
- Cataloging the locations of SMF data by date/time/system
- Simultaneous creation of split files



CA SMF Director components – splitting of data at dump time

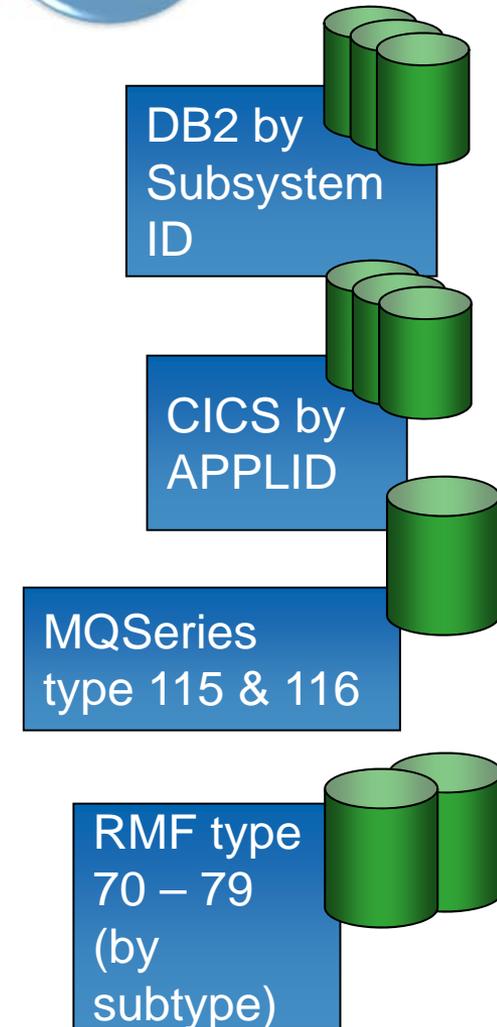
- New SPLIT command
- Create up to 255 output datasets during SMF dump processing
- Select any number of record types and up to 128 discrete subtypes for each SPLIT command
- Reduction in I/O and elapsed time



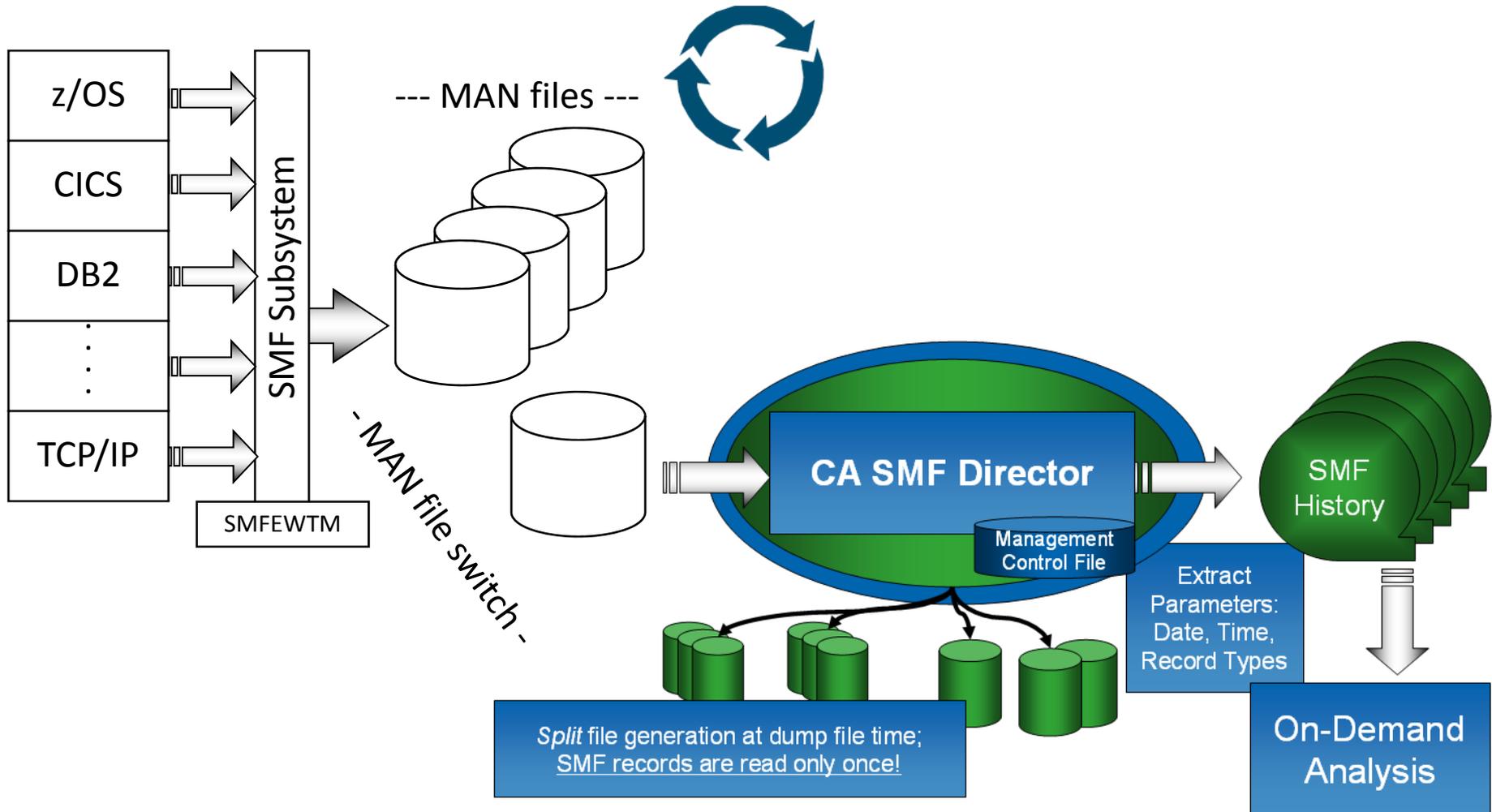
CA SMF Director & CA MICS integration



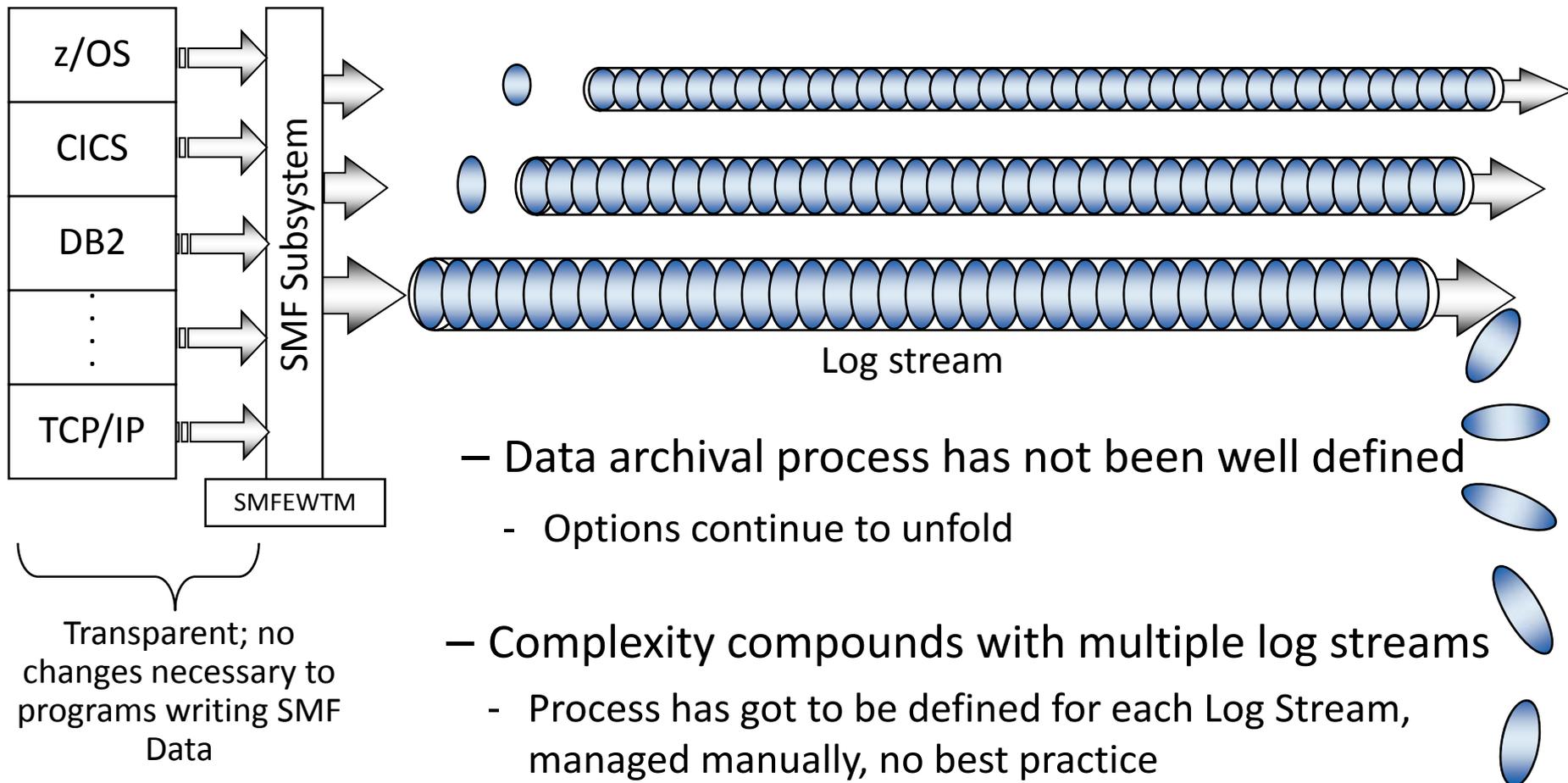
- CA SMF Director splits data into multiple files that contain only the data required by individual CA MICS Data Integration Analyzers
- CA MICS split index input
 - Reads CA SMF Director split index
 - Compares against previously read data
 - Dynamically selects datasets for processing
 - Easy to restart
 - Can be used with standard INPUTSMF DD
 - Can be used with FDAs
- Benefits
 - Reduces JCL changes
 - Reduces I/O and CPU costs by selecting only data relevant to component
 - Improves availability of resource management information



CA SMF Director – traditional MAN file logging



z/OS System Logger – Log Streams



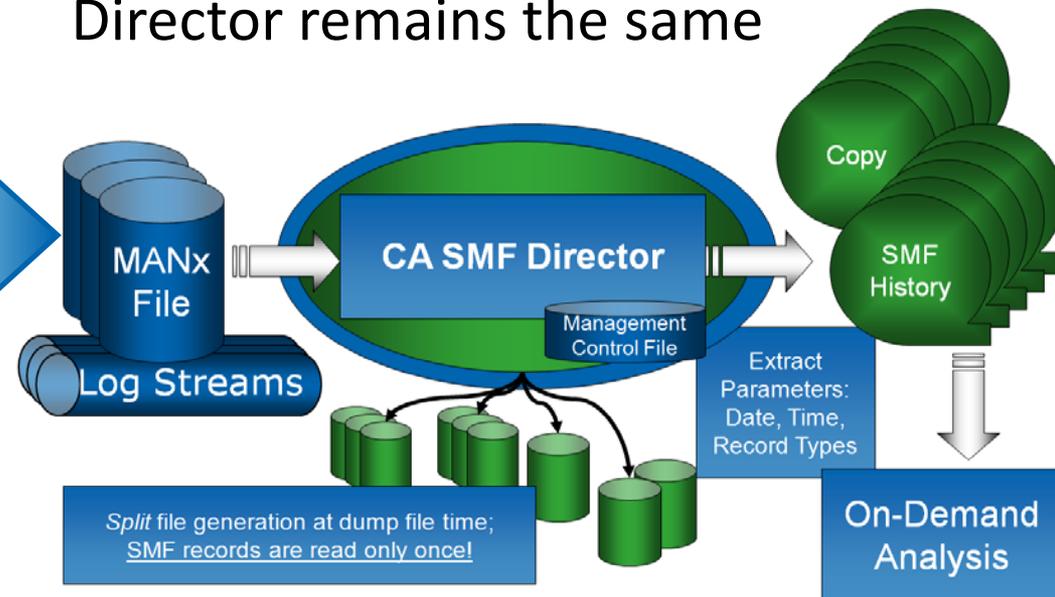
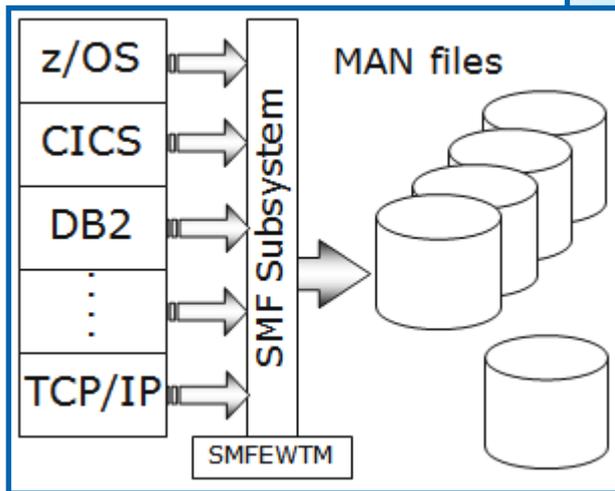
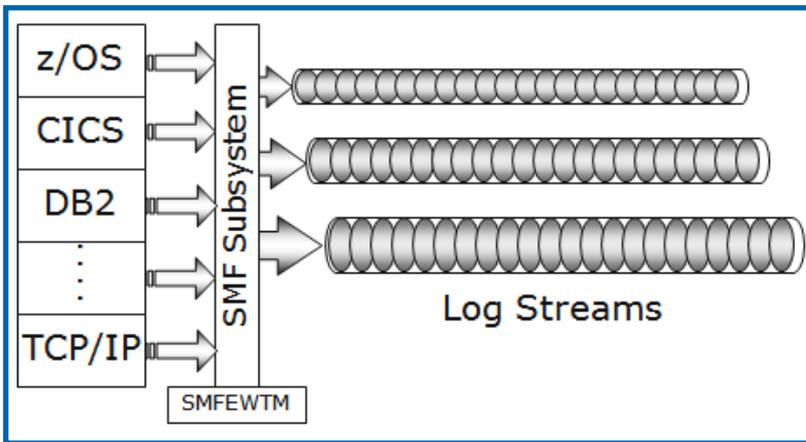


- Developed a CA SMF Director interface that uses standard utilities to read the records from the log streams
 - Driver program (SMFDLS)
 - IFASMF DL user exits (SMFDLX1, SMFDLX2, SMFDLX3)
- Modified CA SMF Director to accept records from the new interface
- Modified CA SMF Director to automatically generate start and end time variables.
- Modified the SCDS file to not only keep track of the system that wrote the records, but also the log stream that they came from

CA SMF Director - log streams or MAN files and sometimes both!

Archive: Eliminate data integrity problems - What you ask for is what you get

Extract: Does not matter, CA SMF Director remains the same



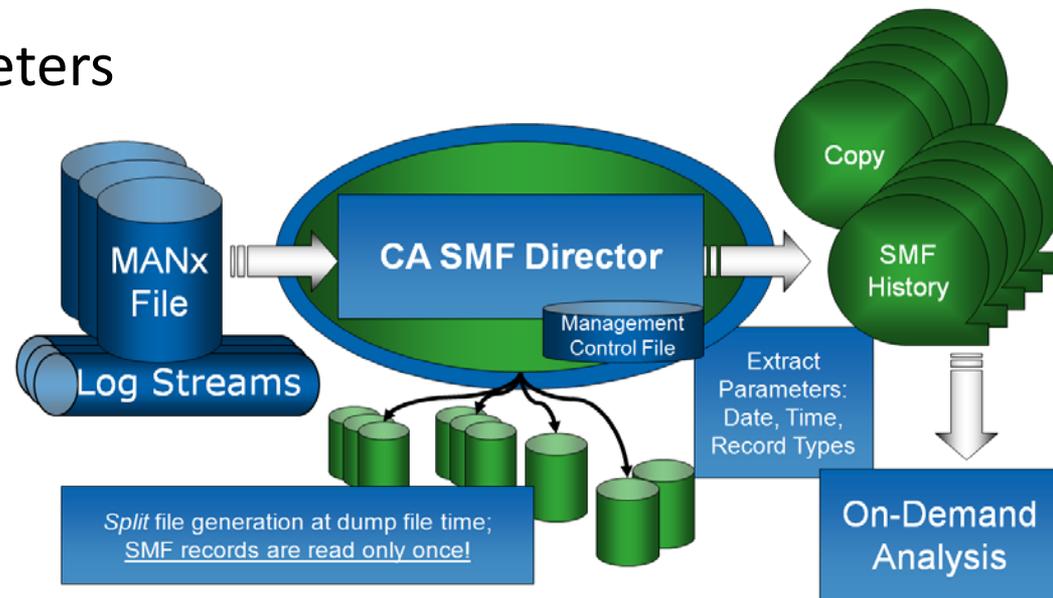
CA SMF Director - ad hoc requests

– Extract or Print options

- SELECT by system ID (SID) or all
- FROM and TO (date and time) range
- SELECT/EXCLUDE by record type and sub type
- WHEN and COUNT parameters

– Selection by keyword

- DAY and Yesterday
- MONTH, LMONTH, WEEK, LWEEK etc.





CA SMF Director automates SMF management; improving availability, simplifying data access and reducing resources required to process this valuable data

CA SMF Director and application integration reduces operational overhead and automates processes improving data integrity and data availability

CA SMF Director enables you to migrate to System Logger and maintain the highest level of data integrity - Today

Additional information or questions:

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Q&A

mainframe networking

Mainframe MIPS Lounge —
Mainframers can relax and talk
informally

Islander D
Monday: 12 PM – 4:45 PM
Tuesday & Wednesday: 8 AM – 6PM
Thursday: 8 AM – 12 PM

Mainframe Networking Lunches

Where: Islander Ballroom, Salon B

When: Tuesday and Wednesday

Time: 12:00pm - 1:15pm



Seating is limited and
will be on a first
come, first served
basis



Mainframe-only party, Wed
night, 7-10pm, House of Blues
(Mandalay Bay)
Need entry pin, get them in the
Mainframe lounge

related sessions

SESSION #	TITLE	Day / Time Room: <u>Tropics A</u>
MR030SN	CA MICS Technology Support – You Asked, We Delivered!	Monday / 1:15
MR050SN	Have You Checked Your CA MICS Implementation Lately?	Monday / 3:45
MR230SN	CA MICS Observations: Practical Best Practices	Tuesday / 9:00
MR090SN	Digging for Gold – How to Mine and Share CA MICS Data, Quickly and Easily	Tuesday / 2:30
MR210SN	CA MICS Tape Analyzer Option – With Six You Get HYDRA	Tuesday / 3:45
MR110SN	Are You Drowning in SMF Data?	Wednesday / 9:00
MR130SN	Get Your Data Faster (and More Easily) – A User Success Story	Wednesday / 1:15
MR170SN	CA MICS Customer Panel – CA MICS <u>NOTE different room: Islander G</u>	Wednesday / 2:30
MR150SN	CA MICS Resource Management in the CA Data Center – A Success Story	Wednesday / 3:45
MR250SN	CA MICS Global User Community Meeting	Wednesday / 5:00

exhibition center related CA technology

- CA Mainframe area
 - Booth 182 Stop by to see MICS reporting with Q&R
- Exhibition Center Tours
 - Sign up at the Info Desk in the Exhibition Center

please complete a session evaluation form

- The number for this session is **MR110SN**
- After completing your session evaluation form, place it in the basket at the back of the room

thank you