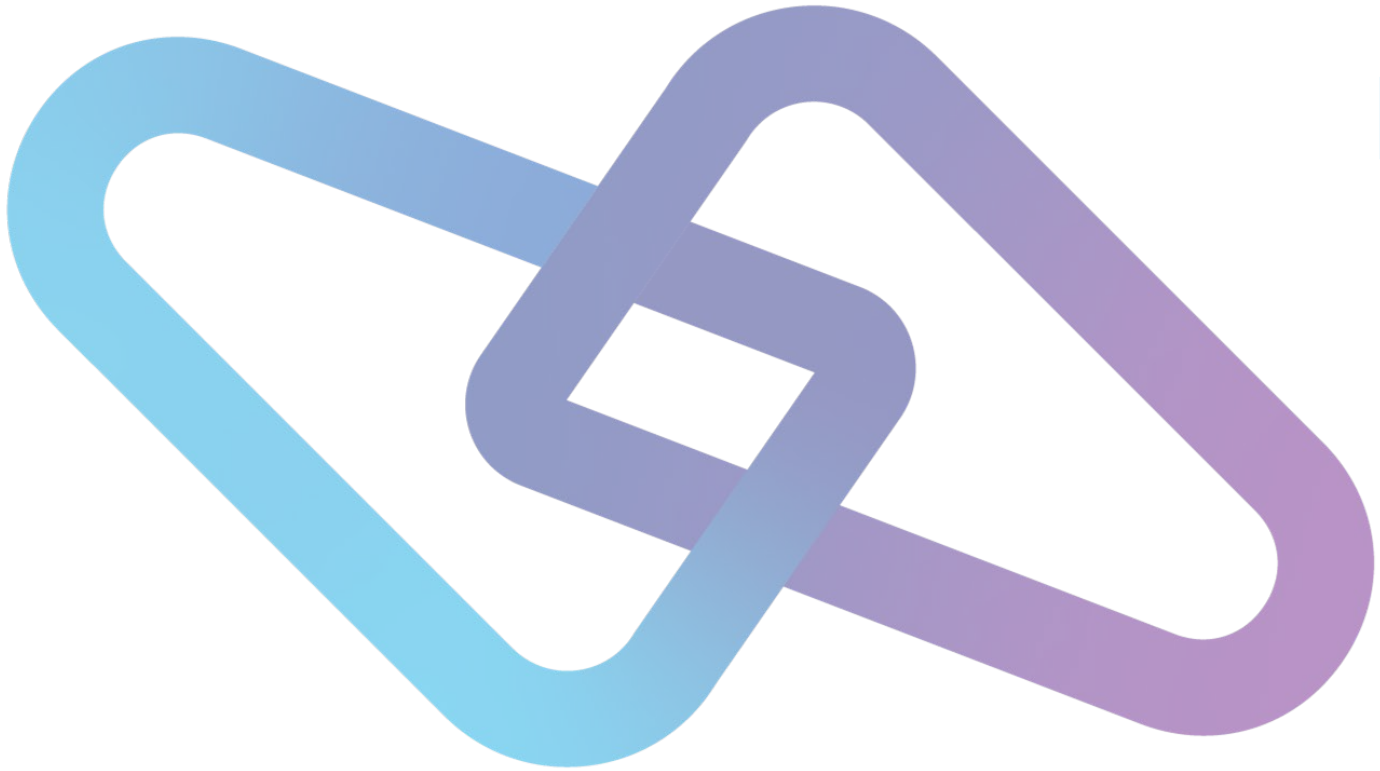


VSE^n SCRT: The Process and how to Review for Correctness

Jonah Hall
Sales Operations Analyst

What is SCRT?

- Full capacity vs. Sub capacity
- SCRT: Sub capacity reporting tool
  - Provides a simple method of reporting on all licensed products on your system
  - Used to measure MSUs (million service units) units for licensed product during a month-long period
  - Uses SCRT89 records as input
  - Captures rolling 4-hour averages over the course of a month
    - Helps compensate for hours that experienced extremely high or low MSU values

Hour:	1	2	3	4	5	6	7	8	9	10	11	12
Utilization this hour:	38	35	36	40	42	45	50	47	46	46	44	40
Rolling 4-hour average utilization:	-	-	-	37	38	41	44	46	47	47	46	44

MSU Pricing Tiers

- Three different pricing tiers based on MSU usage
- Entry level: flat pricing rate if 0 – 3 MSUs are reported
  - For some systems, entry level is considered to be 0 – 4 MSUs due to machine discounts
- As more MSUs are used, price per additional MSU goes down

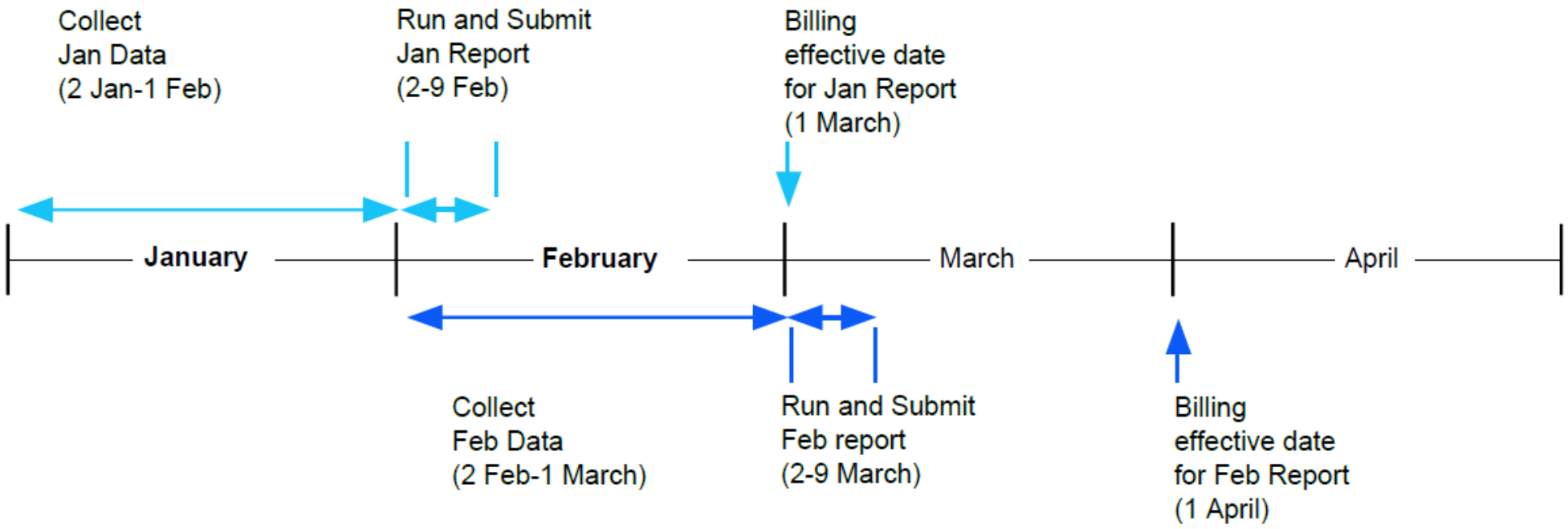
0 – 3 MSUs	4 – 17 MSUs	18+ MSUs

SCRT System Requirements

- VSEn version 6.3 or 6.4
- If 6.3, IBM z114 or 196 or newer
- If 6.4, IBM z14 or newer
- At least one LPAR must be configured on the machine
- System must be configured to collect SCRT89 records
- Minimum required partition size of 6 MB
- REXX must be initialized for SCRT
- All VSE systems on a machine must be VSEn
- All VSEn systems must run CMT

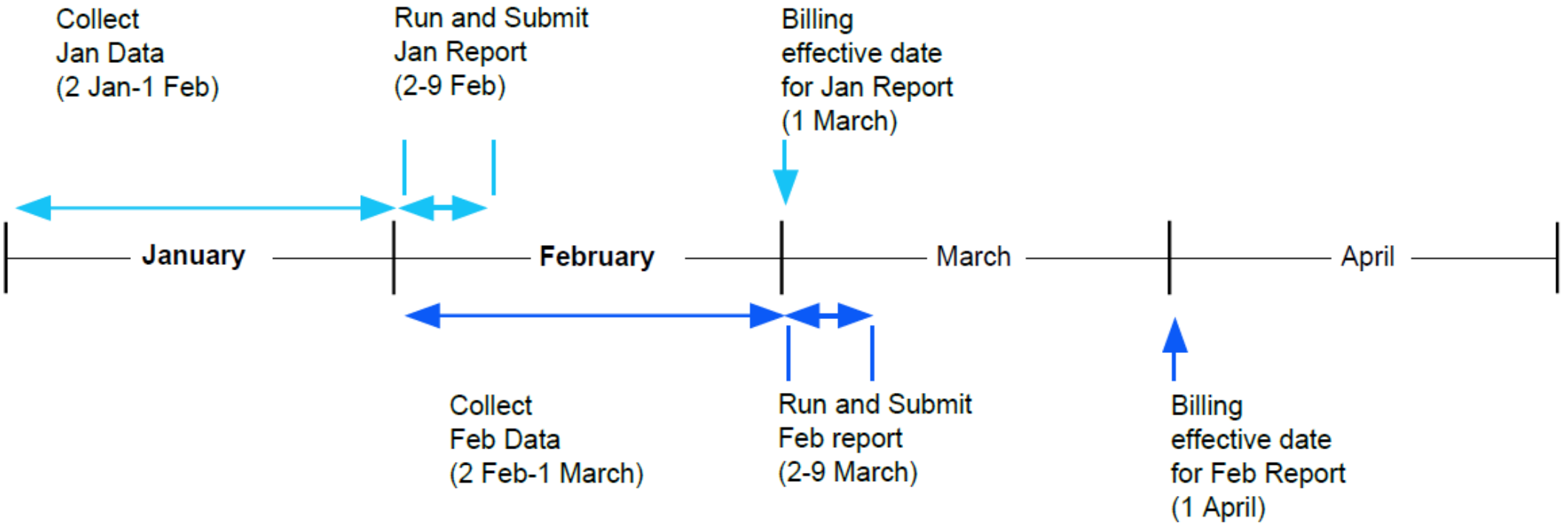
SCRT Reporting Timeline

- SCRT data collection runs from the first minute of the second day of a month to the last minute of the first day of the next month
- SCRT reports are run between the 2nd and 9th of the "next" month
- If VSEn was running between January 2nd and February 1st, an SCRT report could be run between February 2nd and 9th



SCRT Reporting Timeline

- Sub capacity pricing follows a staggered monthly billing structure
- The resulting SCRT report should be submitted to the appropriate folder in Box, where it will be reviewed by 21CS and billed on the first of the following month (in this example, March 1st)



SCRT Process Overview

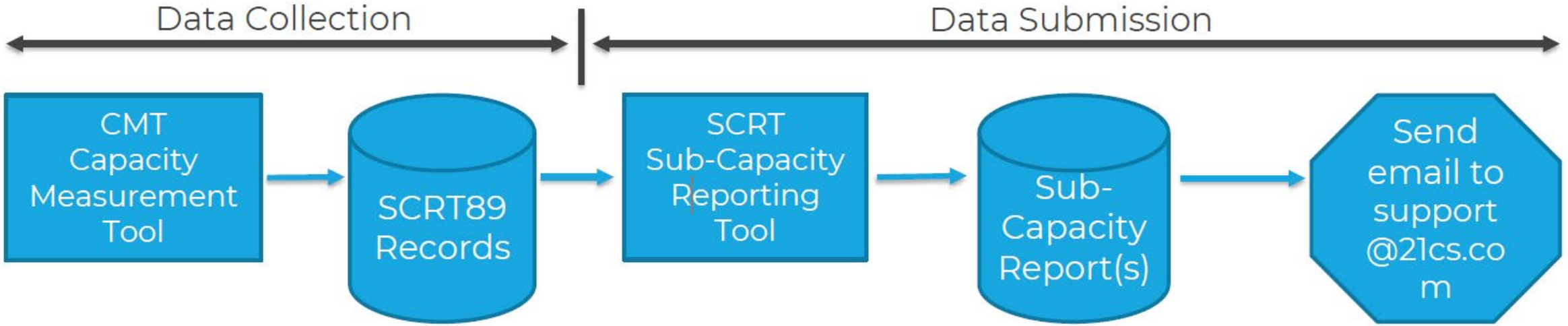
- Apply all required software and service updates
- Use the latest version of SCRT
- Collect one reporting period's worth of SCRT89 records on each machine
- Move all SCRT89 data collected on each machine to the VSEn system you intend to run SCRT on
- Run SCRT to generate sub-capacity reports
- Review return code

SCRT Process Overview – Return Codes

- 0 – successful generation for each CPC
- 4 – report generated with at least one warning message
- 8 – at least one report was generated and at least one could not be generated
- 16 – no reports could be generated

SCRT Process Overview

- Review sub-capacity report and move it to your workstation
- Submit sub-capacity reports to 21CS no later than the 9th of each month along with VSAM input files in binary and block mode
- Retain SCRT data



SCRT Skeletons

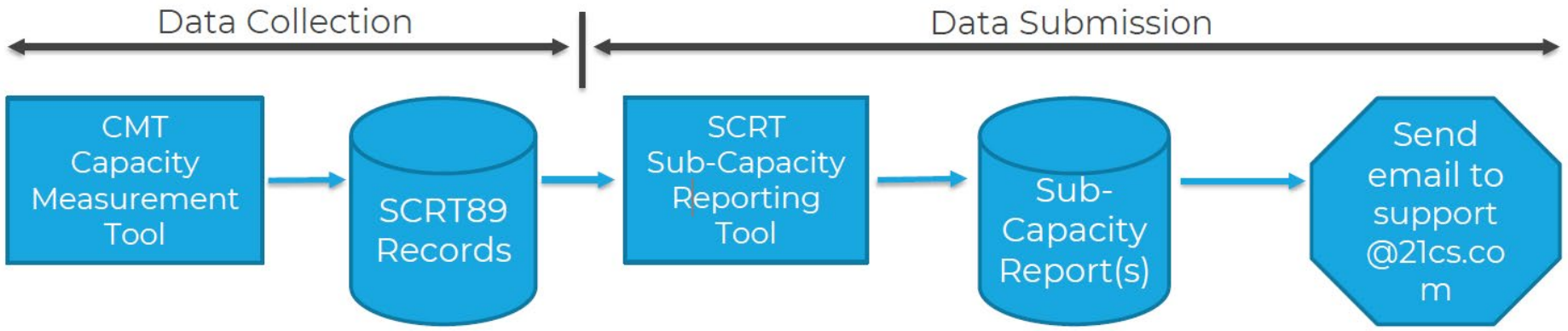
- The following pre-written skeletons (a set of control statements or instructions) will assist you in the SCRT process
  - SKCMT - Prepares and activates CMT
  - SKCMTAWS - Copies records of data written by CMT to a VTAPE
  - SKCMTINI - Initializes the files used by CMT
    - Only needs to be done when SCRT is first being used, not every month
  - SKCMTOUT - Defines the VSAM file cluster in the CMT for writing SCRT89 data
    - Only needs to be run once when SCRT is first used

SCRT Skeletons

- SKCMTREP - Extracts records of data written by CMT into CMTREPO file
- SKSCRT - Creates the SCRT report from the data by CMT to a CSV file
- SKSCRTDS - Defines the VSAM cluster for CSV output
- SKUSERBG - Used to automatically start CMT during IPL

Processing SCRT89 Data

- On the second day of the month, run the CMTREPO job from the SKCMTREP skeleton to extract SCRT89 records from the BAM data sets
- Transfer CMTREPO files to one VSEn system
- Use SKSCRTDS skeleton to ensure the output file is created
- Run SCRT using customized JCL from skeleton SKSCRT



SCRT Initialization - CMT

- CMT (capacity measurement tool) must be running in order to collect SCRT89 records
  - CMT requires three files
    - One control file: IJSYSCC
    - Two data files: IJSYSC1 and IJSYSC2 (also referred to as SCRT89 files)
  - These must be sequential (BAM) disk files and must not be shared among systems, as each requires its own set of files
  - Once initialized, an SCRT89 record is written to a data file every 30 minutes
- VSAM input files from each LPAR are aggregated onto one LPAR and submitted to SCRT, which in turn generates an SCRT report.
  - These input files must be maintained in .bin format and block mode

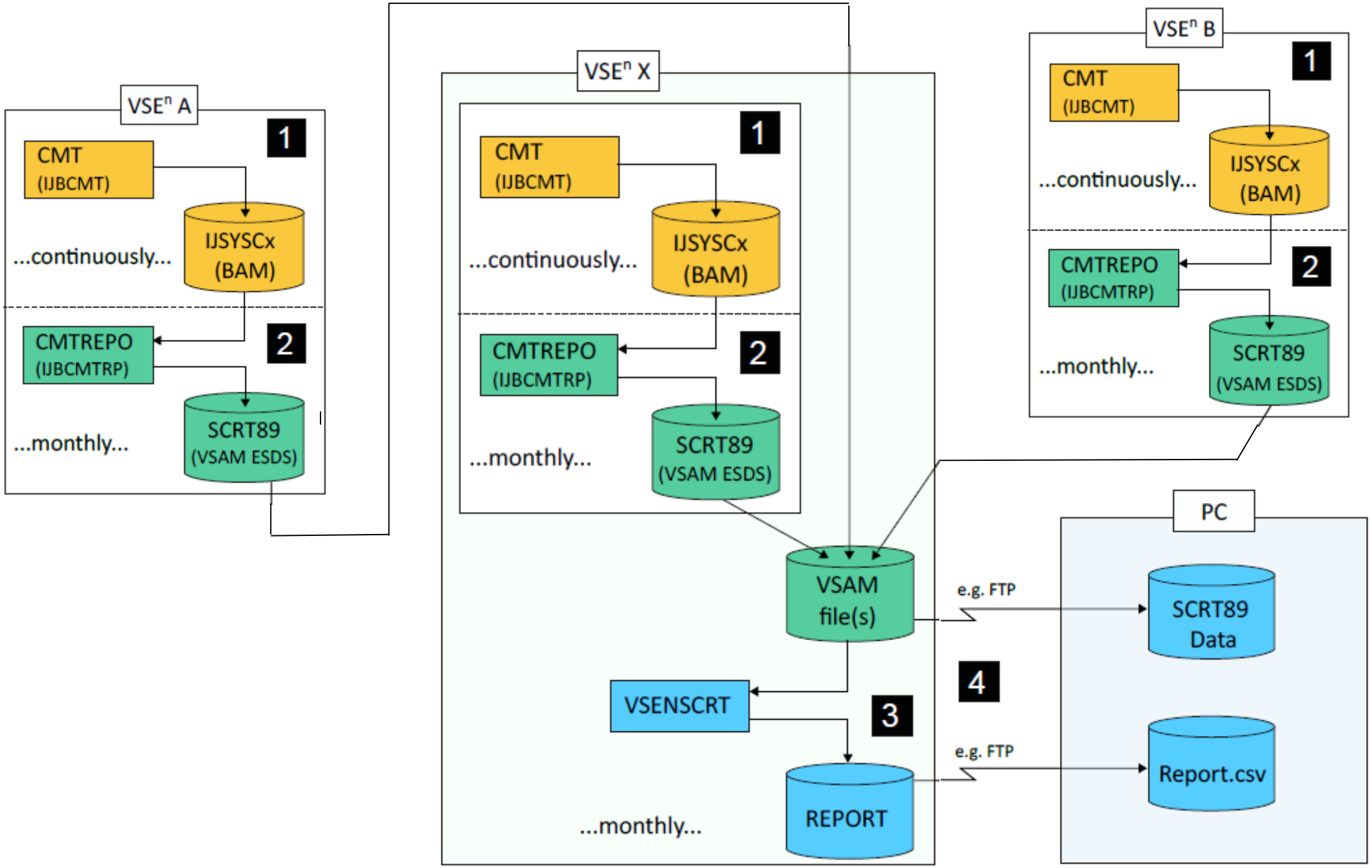
SCRT Initialization Steps

1. Customize skeletons
2. Initialize IJSYSCC, IJSYSC1, and IJSYSC2 using the CMTINIT job prepared in the SKCMTINI skeleton
   - Can only be initialized once or else because the CMTINIT job erases any data in the IJSYS files
3. Ensure that CMT starts when you IPL a VSEn system
4. Verify that CMT is running with a SIR command

```
CAPACITY MEASUREMENT ACTIVE
```

SCRT Overview Diagram

1. CMT continuously writes SCRT89 records into a BAM dataset
2. Run CMTREPO job to extract SCRT89 data into a VSAM input file
3. Run SCRT, which takes all SCRT89 records from each system and writes a sub-capacity report to a REPORT file
4. Transfer the report and input files to your workstation



SCRT Common Problems/Invalid Cases

- Wrong reporting period
- CMT not running – may not record full month
- Binary or block issue
- Incorrect products reported
- General JCL issues linking the incorrect data files for SCRT report/SKSCRT job
- Incorrect MSUs (may fall into the other categories like wrong hours, which we would recommend sending to us and we can validate or not the report
- Missing customer number – ensure the field is not empty
- Unexpected/unlicensed products reported
  - The product was used or was not used but reported because of a control statement

SCRT Structure: Sample SCRT Report

- We'll be reviewing the structure of a sample sub-capacity report with the following LPARS:
  - VSEPROD: native VSE^n system
  - VSEVM: runs an IBM z/VM system that supports two VSE^n guest systems
    - DEV1
    - DEV2

SCRT Structure: Sample SCRT Report

VSEPROD	VSEVM (IBM z/VM)	
VSE^n (VN6-63C) (CMT ID = VPRD)	VSE^n (VN6-63C) (CMT ID = DEV1) (VM user ID = VGDEV1)	VSE^n (VN6-63C) (CMT ID = DEV2) (VM user ID = VGDEV2)
VCDD OLTP HL Assember C for VSE^n TCP/IP for VSE^n	VCDD OLTP HL Assember Cobol for VSE^n C for VSE^n TCP/IP for VSE^n	VCDD HL Assember Cobol for VSE^n C for VSE^n TCP/IP for VSE^n

Sample SCRT Report: Product Names

IBM Name	21CS Name
z/VSE 6.2	VSEn 6.4
ACF/VTAM	VCDD
CICS	OLTP
High Level Assembler	High Level Assembler (HLASM)
COBOL	COBOL
C for VSE	C for VSEn
IBM TCP/IP	TCP/IP for VSEn
DITTO	SMDMU

SCRT Structure: Header

- Indicated by subheader code B5
- Contains basic information about the submitter and their company
- Lists machine model, serial number, max capacity, and the highest recorded utilization for the period

==B5========= SCRT Sub-Capacity Report - 21cs ==========	
Run Date/Time	5 Jun 2026 - 11:24
Name of Person Submitting Report:	John Customer
E-Mail Address of Report Submitted:	customer@abc.com
Phone Number of Report Submitter:	444-999-9999
Customer Name	ABC Corporation
Customer Number	8971234567
Machine Serial Number	02-123AB
Machine Type and Model	3907-W02
Machine Rated Capacity (MSUs)	272
Machine Peak Utilization	37
Machine MSU Consumed	0
Purchase Order Number	(optional)
Customer Comments (255 chars max)	(optional)

Machine Replacements

- Machine (CPC) replacement occurs whenever the machine type OR serial number are changed
- Data for each unique CPC must be reported on
- DR test
  - Two kinds
    - Start using DR for a temporary amount of time
    - Start using DR without using the primary machine
  - Will produce an entire addition SCRT report on the same CSV file directly after the first one finishes

Before (replaced) CPC Type and serial number	After (replacement) CPC Type and serial number
2097 02-12345	2097 02-22222
2097 02-12345	2817 02-12345
2097 02-12345	2817 02-22222

SCRT Structure: Tool Information

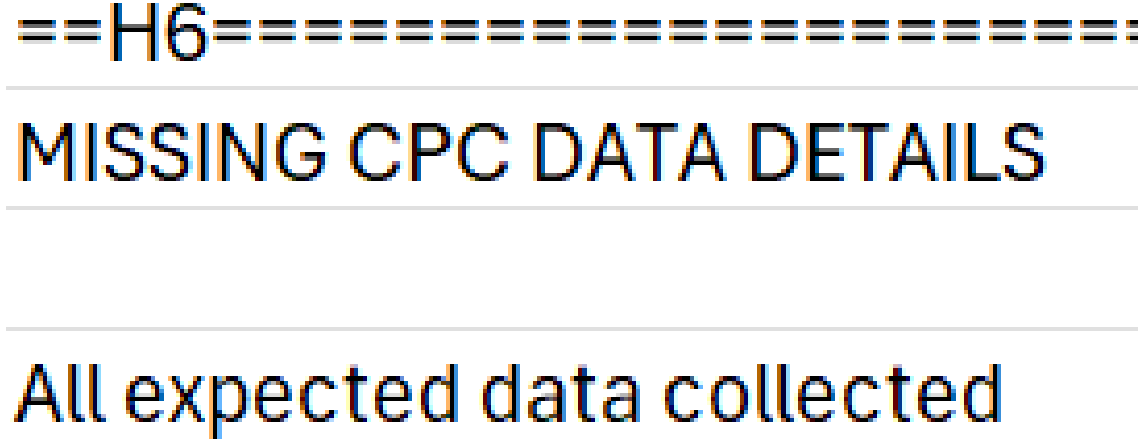
- Indicated by subheader code C5
- Always ensure that the APAR is on the latest version
- To update, apply latest PTFs
- Current APAR is 311 for 6.3 and 312 for 6.4

==C5==========

Tool Information		
Tool Release	1.1.1	Apar VA00312
Reporting Period	2 May 2026 - 1 June 2026 inclusive	

Missing CPC Data Details

- Indicated by subheader code H6
- Will report one record for each time interval where no data was recorded on a CPC
- If no data gaps detected during reporting period, reports that all data was collected



Missing CPC Data Details

- Missing data will be labeled according to the system's model and serial number
- Empty field where user can provide an explanation
- Valid reasons for an LPAR to be missing data
  - Only ran z/VM or Linux for z
  - CBU (capacity backup) or DR test
  - Environment was down

==H6==========			
MISSING CPC DATA DETAILS			
CPC with no SCRT89 data from any LPAR	Detected	Resolved (missing hours)	Justification for low data collection
3907-123AB	12 May 2026 05:00	12 May 2026 10:00 (5 hours)	Linux system was running

SCRT Structure: Input Data Statistics

- Indicated by subheader code M5
- Each of the three lines represents an LPAR and each will have their own input file used in SCRT creation

==M5==========

SCRT89 INPUT DATA STATISTICS				
	SYSID	Input Data Start		Input Data End
VSEPROD	VPRD	02 May 2026 - 00:00		01 Jun 2026 - 23:59
VSEVM(VGDEV1)	DEV1	02 May 2026 - 00:00		01 Jun 2026 - 23:59
VSEVM(VGDEV2)	DEV2	02 May 2026 - 00:00		01 Jun 2026 - 23:59
CPC		01 May 2026 - 00:00		02 Jun 2026 - 23:59

SCRT Structure: Detail LPAR Data

- Indicated by subheader code N5
- A continuation of previous section
- Gives a quick summary of the highest and second highest reported hours for each LPAR

==N5==========

DETAIL LPAR DATA SECTION

	Highest	Hour Count	Date/Time	2nd Highest	Hour Count	Date/Time
VSEPROD	36	1	03 Apr 2026 - 07:00	35	5	03 Apr 2026 - 06:00
VGDEV1(guest)	14	6	03 Apr 2026 - 11:00	13	11	03 Apr 2026 - 10:00
VGDEV2(guest)	17	4	04 Apr 2026 - 12:00	16	7	04 Apr 2026 - 11:00
CPC	107	5	03 Apr 2026 - 12:00	106	106	03 Apr 2026 - 11:00

SCRT Structure: Product Max Contributors

- Indicated by subheader code P5
- Shows MSU usage broken down by LPAR
- (v) means less than 1 MSU was contributed to the total reported in “Highest” column

==P5==========

PRODUCT MAX CONTRIBUTORS

Product Name	Product ID	Highest	Date/Time	VSEPROD	VSEVM(VGDEV1)	VSEVM(VGDEV2)
VSEn V6.4	VN6-63C	37	03 Sep 2025 - 07:00	36	(v)	(v)
VCDD for VSEn 4.3	VV4-DV4	37	03 Sep 2025 - 07:00	36	(v)	(v)
OLTP for VSEn 2.3	VO2-OV2	37	03 Sep 2025 - 07:00	36	(v)	0
COBOL for VSEn 1.2	CO1-CO1	1	03 Sep 2025 - 07:00	0	1	(v)
SMCART for VSEn 3.5	SM3-SM3	37	03 Sep 2025 - 07:00	36	(v)	(v)
SMDMU for VSEn 1.4	SU1-SU1	37	03 Sep 2025 - 07:00	36	(v)	(v)
High Level Assembler for VSEn	VA1-HV1	37	03 Sep 2025 - 07:00	36	(v)	(v)

Footnotes:

(v) Value is less than 1 MSU

SCRT Structure: Multiple Versions

- What if one of our two guest VSEn systems was running 6.3, while the other was using 6.4?
- It is possible to report on multiple versions of VSEn if used on the same machine
- Each version shows up as an individual line Product Summary breakdown

```
==E5============================================================
PRODUCT SUMMARY INFORMATION
MLC Product Name                MLC Product ID     Tool MSUs    Customer MSUs   Customer Comments (255
 chars max)

VSEn                            (All)              17
VSEn V6.3                       VN6-63C            1
VSEn V6.4                       VN6-64C            17
VCDD for VSEn 4.3               VV4-DV4            17
OLTP for VSEn 2.3               VO2-OV2            17
COBOL for VSEn 1.2              CO1-CB1            1            (optional)      (conditional)
SMDMU for VSEn 1.4              SU1-SU1            17           (optional)      (conditional)
High Level Assembler for VSEn   VA1-HV1            17           (optional)      (conditional)
```

Submission Checklist

1. Correct version of SCRT
2. Verify reporting period is correct month and for the correct amount of time
3. Ensure data collected is from the second day of the previous month up to the first day of the current month
4. Verify machine model and serial number
5. Is there any missing data reported in Missing CPC Data Details section?
    - If so, was a justification provided?

Submission Methods

- Three methods for transferring SCRT89 records from a VSEn system to a Microsoft Windows or Linux system
  - FTP – input files must be in block and binary mode and the CSV must be ASCII
    - TCP/IP
    - IPv6/VSE
    - VSEn Virtual FTP Server
  - Host file transfer through 3270
  - VSAM REPRO on VTAPE
- Once files are transferred, upload to your Box folder “CMT Records from month YYYY-MM“

Q & A

Thank you!