NEAR REAL-TIME SYSTEM MONITORING AT WUNDERMAN HEALTH

WUNDERMAN

Disclaimers

- We will not discuss custom coding or SDK, only out of the box MicroStrategy tools.
- We will not present any new, bright and shiny objects, just “salt of the earth,” behind the scenes ways of administering a MicroStrategy installation.
- We don’t expect that what we present is the “Best” way. You may have better ideas and we welcome your input and look forward to collaboration at the end of the session.
- We won’t be offended if you walk out and look for a session that will be a better use of your time.

Goal of this session

- Increased familiarity of the MicroStrategy admin tool set.
- Spark ideas on how to use these tools in your environment.
- Share some of the challenges of care and feeding of a MicroStrategy environment and their solution.

Wunderman Health – Marketing Information System (MIS)

- Healthcare marketing firm that unites creativity and data to assist our clients in the design and execution of effective campaigns.
- 25+ healthcare insurance clients.
- OEM Partner of MicroStrategy.

System

- Three clustered I-Servers
- Two balanced web servers
- Microsoft SQL Server
- For security, each client has their own database and project.
- Fully independent Development and QA systems.

The Backstory….

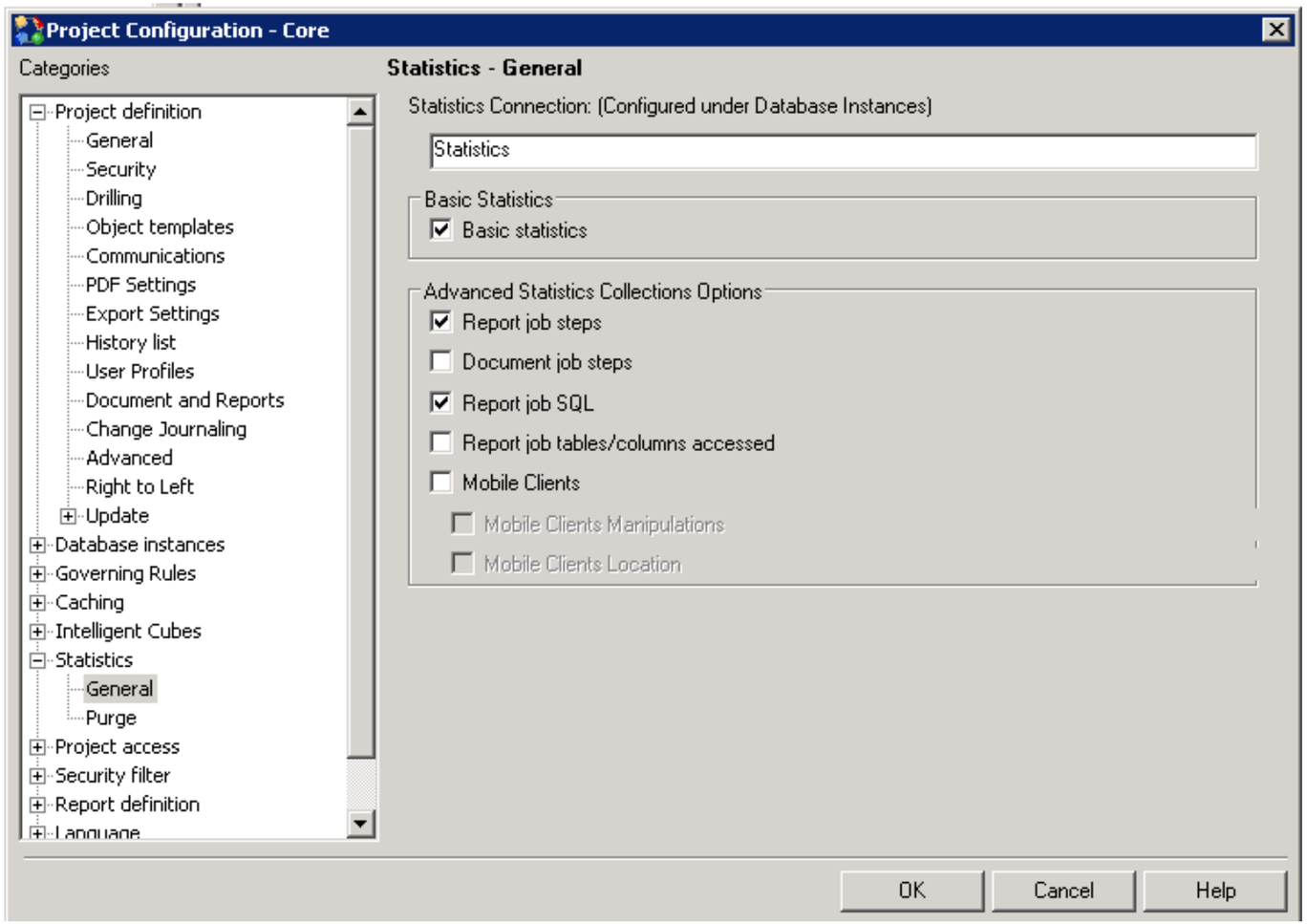
- The “List Pull” is a multi-step reporting work flow utilizing standard, Data Mart and Free Form SQL reports with built in checks and balances.
- Troubleshooting efforts were hampered by:
  - System complexity:
    - Two web servers
    - Three Intelligence servers
    - Eight SQL servers
  - Lack of window into what the user was attempting to perform.

Solution

- Enterprise Manager to collect user activity, including SQL generated by report requests.
- Command Manager to launch the Enterprise Manager data load process.
- System Manager to provide the workflow to launch the Command Manager scripts.
- Dossiers for analysis.

Enterprise Manager

- Tasks
  - Install EM.
  - Configure projects to log statistics.
  - Configure EM data load.



Enterprise Manager

- Challenges
  - –Management now done via Command Manager.
  - –“Best Practice” is to run data load once per day.
  - –Balance data load frequency to aid troubleshooting vs. system load.
  - –EM schema objects over-related.

Command Manager

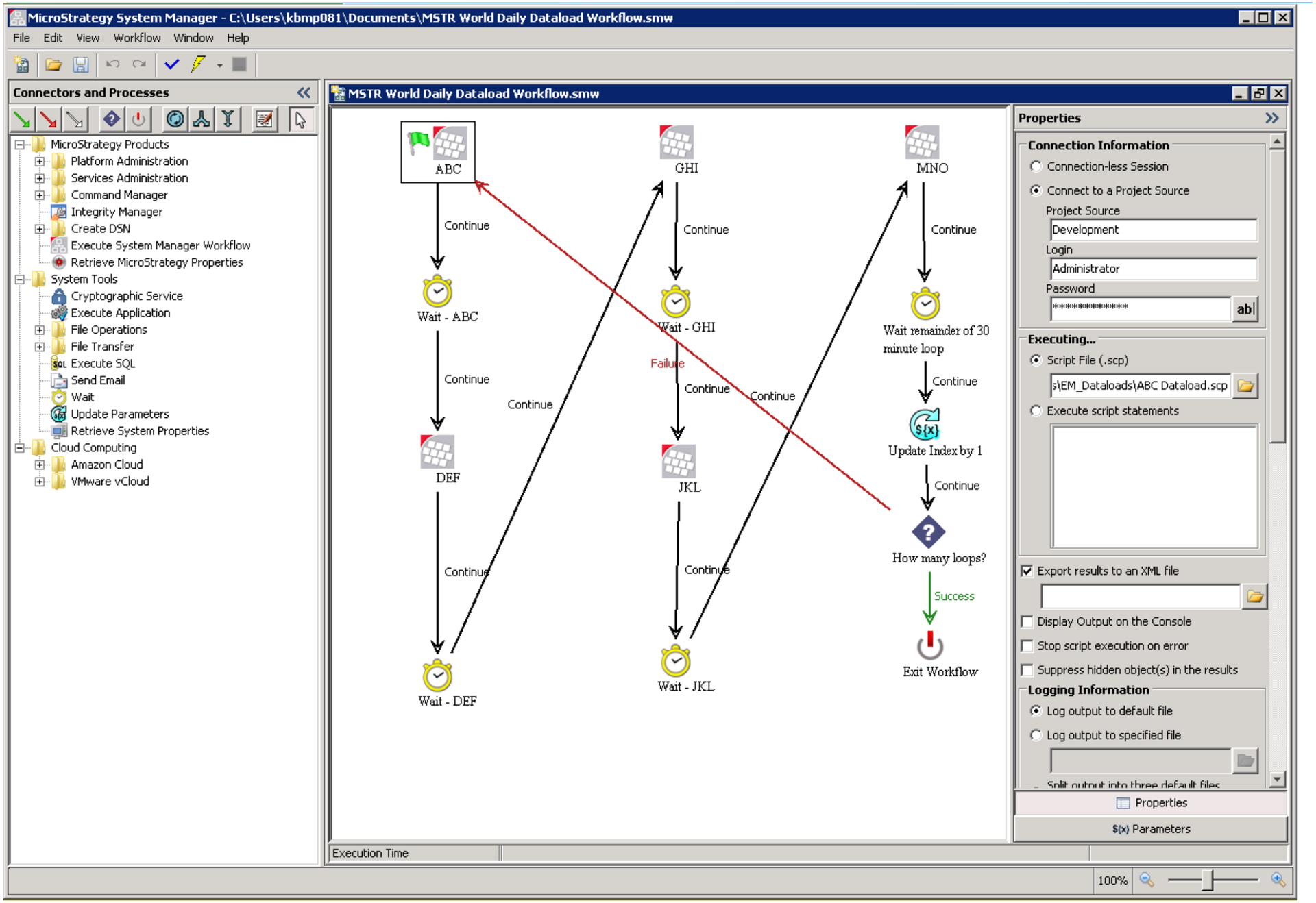
- Tasks
  - –Create data load for each project:
    - CREATE DATA LOAD "ABC Dataload" FOR ENVIRONMENT "KBMMSTPV01.KBM1.LOC" AND PROJECT "ABC" DO ACTION UPDATEWAREHOUSE CLOSESESSIONS BEGIN DATE "06/14/2017 23:00:00 +0000" FREQUENCY WEEKLY ON SUNDAY AT 06:00:00 DISABLED IN ENTERPRISE MANAGER "KBMMSTDV01" IN PORT 9999;
  - –Create data load execution script for each project:
    - EXECUTE DATA LOAD "ABC Dataload" IN ENTERPRISE MANAGER "KBMMSTDV01" IN PORT 9999;

Command Manager

- Challenges
  - How can we run data load every 30 minutes for each project?

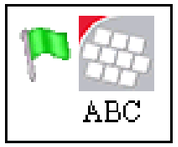
System Manager

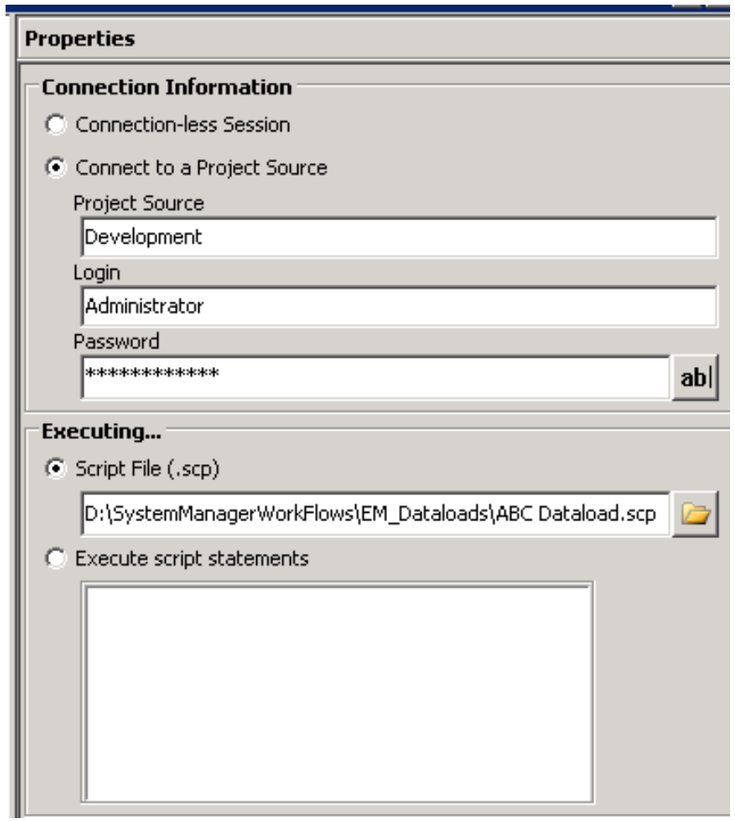
- Tasks
  - –Create work flow that runs the data load CM script every 30 minutes.
  - –Create system task that starts the System Manager workflow.

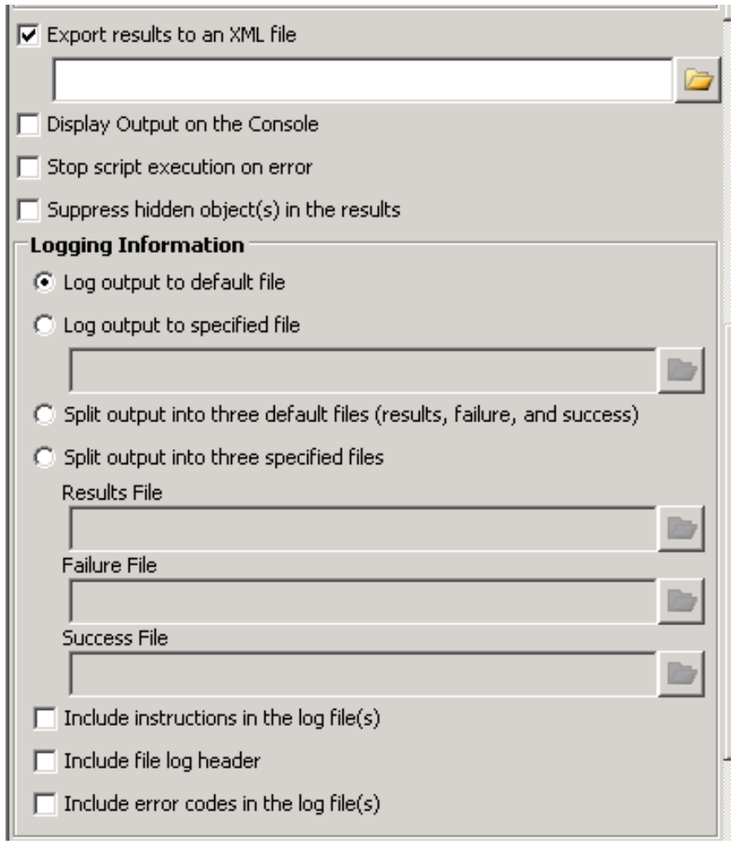

MicroStrategy System Manager - C:\Users\kbmp081\Documents\MSTR World Daily Dataload Workflow.smw
File Edit View Workflow Window Help
Connectors and Processes
MicroStrategy Products
Platform Administration
Services Administration
Command Manager
Integrity Manager
Create DSN
Execute System Manager Workflow
Retrieve MicroStrategy Properties
System Tools
Cryptographic Service
Execute Application
File Operations
File Transfer
Execute SQL
Send Email
Wait
Update Parameters
Retrieve System Properties
Cloud Computing
Amazon Cloud
VMware vCloud
MSTR World Daily Dataload Workflow.smw
ABC
Continue
Wait - ABC
Continue
DEF
Continue
Wait - DEF
GHI
Continue
Wait - GHI
Failure
Continue
JKL
Continue
Wait - JKL
MNO
Continue
Wait remainder of 30 minute loop
Continue
Update Index by 1
Continue
How many loops?
Success
Exit Workflow
Continue
Continue
Continue
Properties
Connection Information
Connection-less Session
Connect to a Project Source
Project Source
Development
Login
Administrator
Password
Executing...
Script File (.scp)
s\EM_Dataloads\ABC Dataload.scp
Execute script statements
Export results to an XML file
Display Output on the Console
Stop script execution on error
Suppress hidden object(s) in the results
Logging Information
Log output to default file
Log output to specified file
Properties
$(x) Parameters
Execution Time
100%

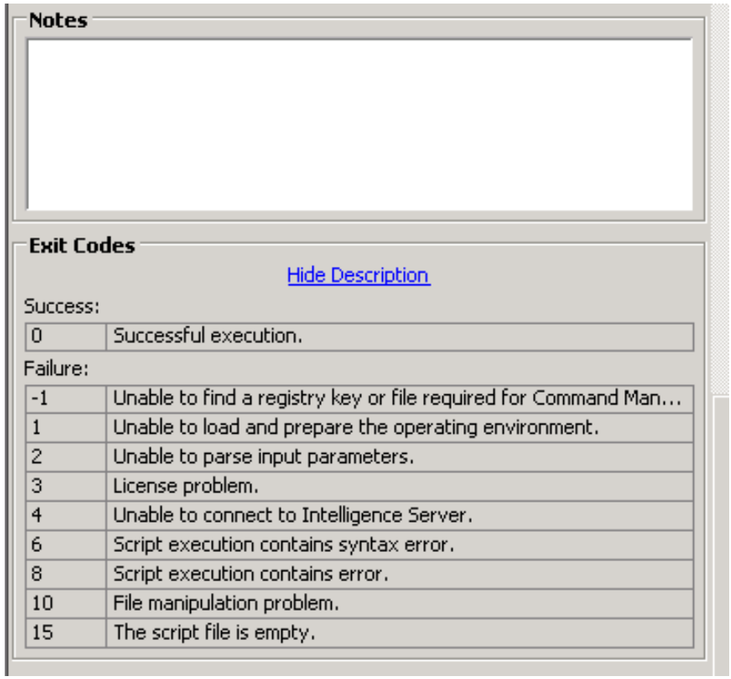
System Manager Workflow Components

–Command Manager Process



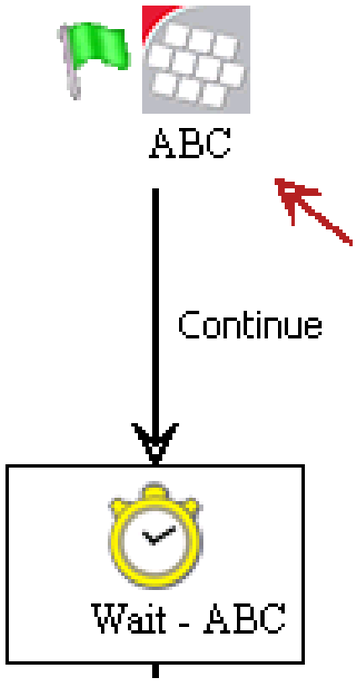






System Manager Workflow Components

–Wait Process - Clients



Properties

Waiting Time (sec)

${SECONDSBETWEENCLIENTS}

Minutes

Hours

Notes

Exit Codes

Hide Description

Success:

0	Successful execution.

Failure:

-1	The waiting time is not an integer.
-2	The waiting process was interrupted.

Parameter:SecondsBetweenClients

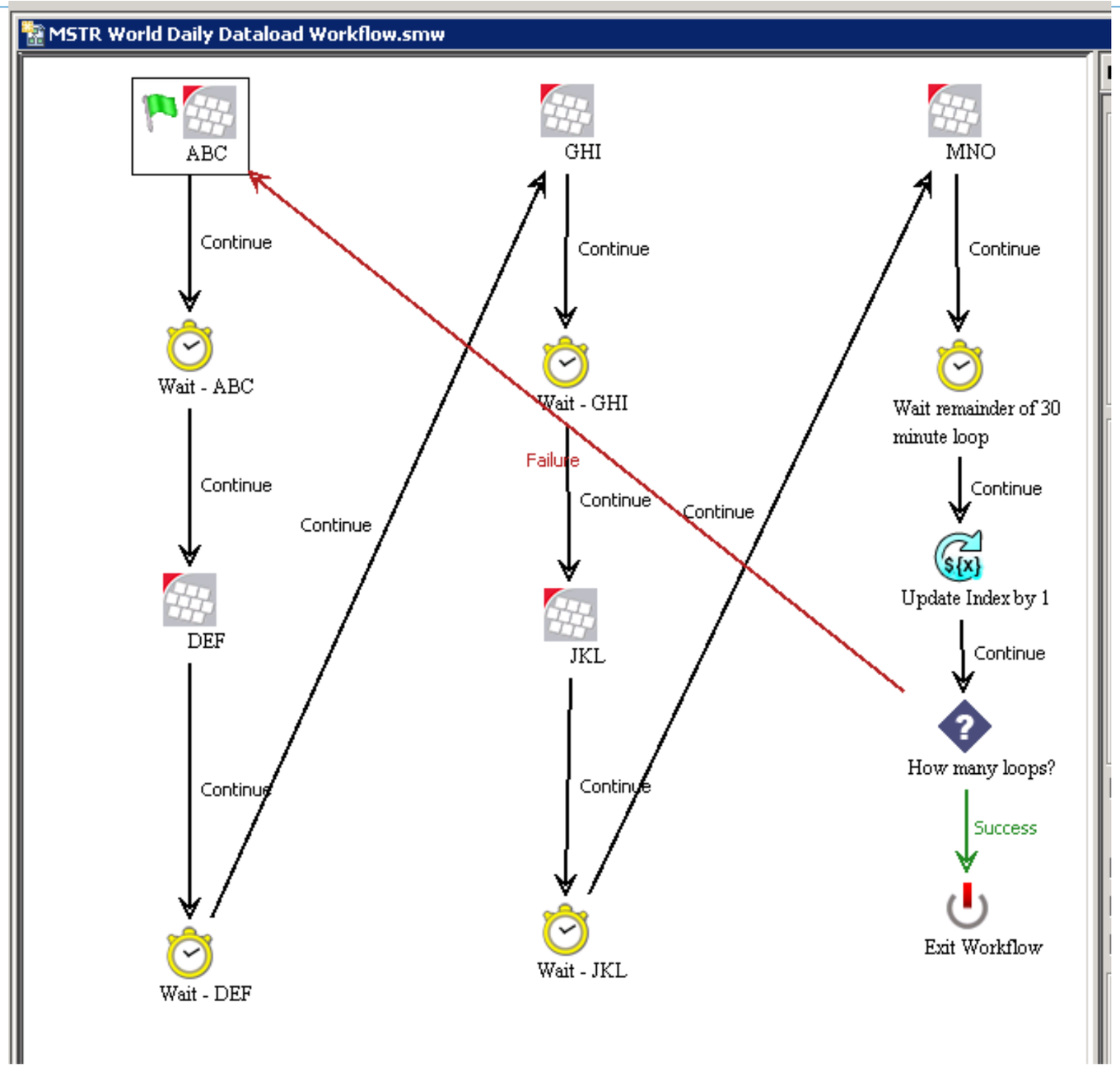
Name

SecondsBetweenClients

Value

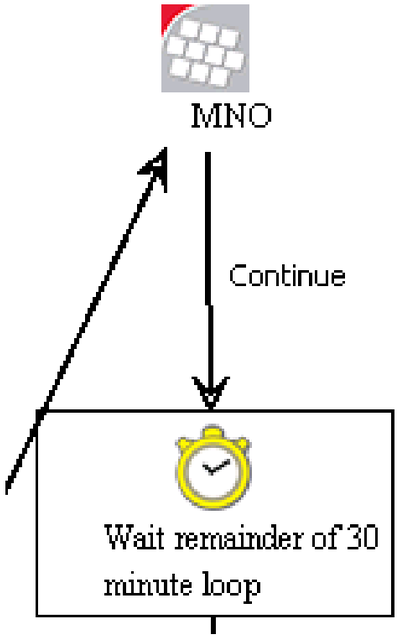
90

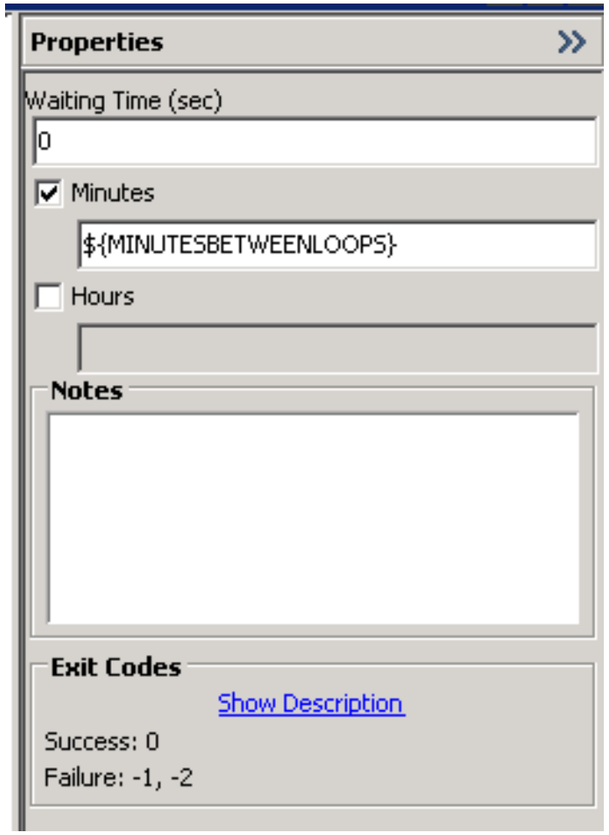
Confidential

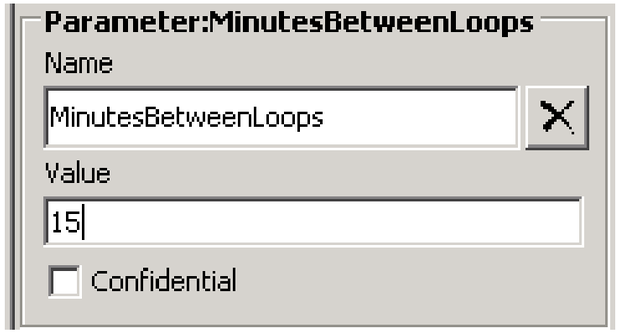

MSTR World Daily Dataload Workflow.smw
ABC
Continue
Wait - ABC
Continue
DEF
Continue
Wait - DEF
GHI
Continue
Wait - GHI
Failure
Continue
JKL
Continue
Wait - JKL
MNO
Continue
Wait remainder of 30 minute loop
Continue
${x}
Update Index by 1
Continue
How many loops?
Success
Exit Workflow
Continue
Continue
Continue

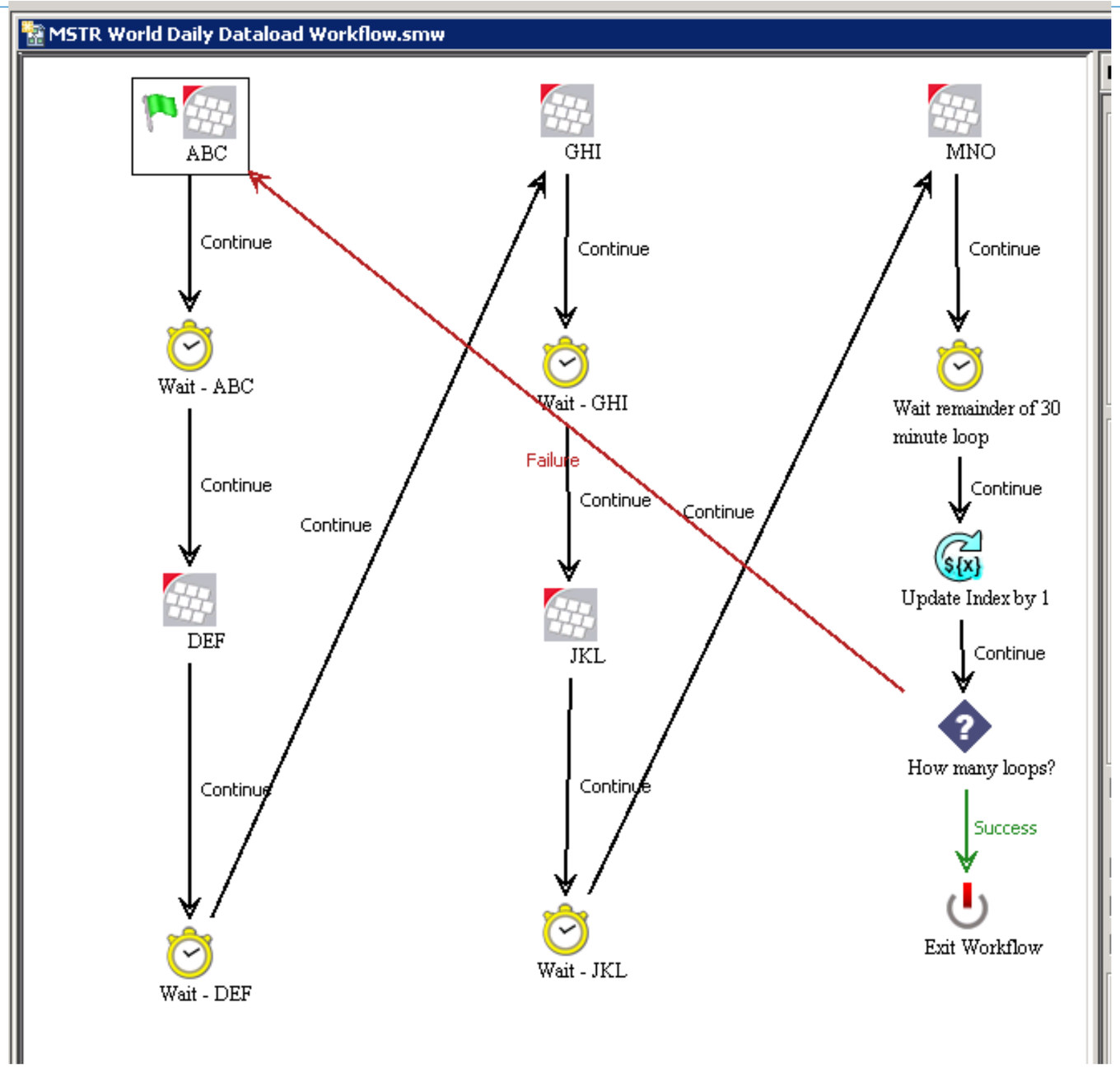
System Manager Workflow Components

–Wait Process - Loops



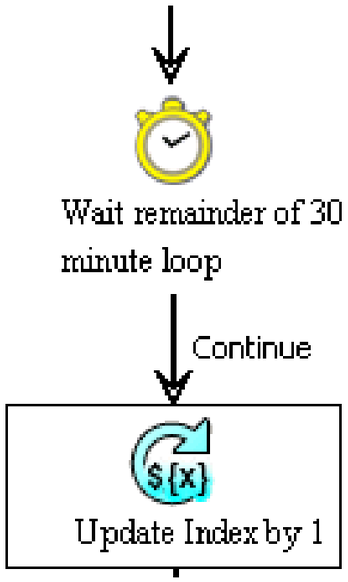


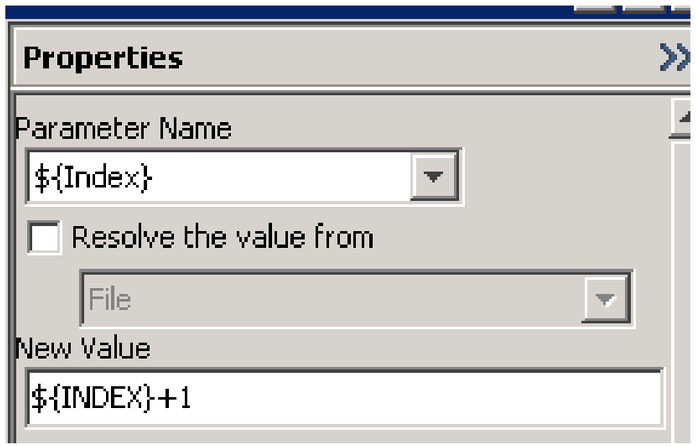


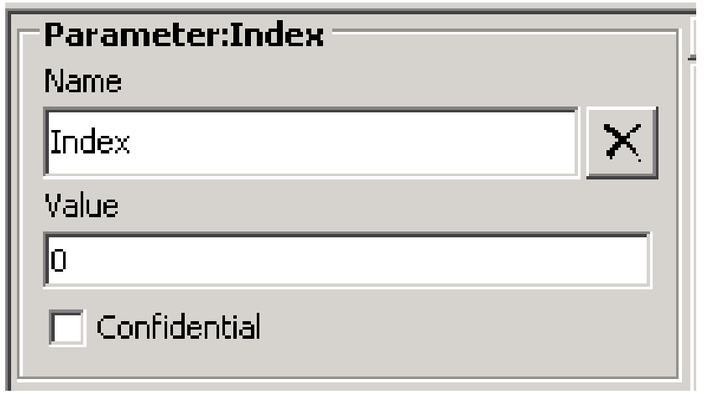

MSTR World Daily Dataload Workflow.smw
ABC
Continue
Wait - ABC
Continue
DEF
Continue
Wait - DEF
GHI
Continue
Wait - GHI
Failure
Continue
JKL
Continue
Wait - JKL
MNO
Continue
Wait remainder of 30 minute loop
Continue
${x}
Update Index by 1
Continue
How many loops?
Success
Exit Workflow
Continue
Continue
Continue

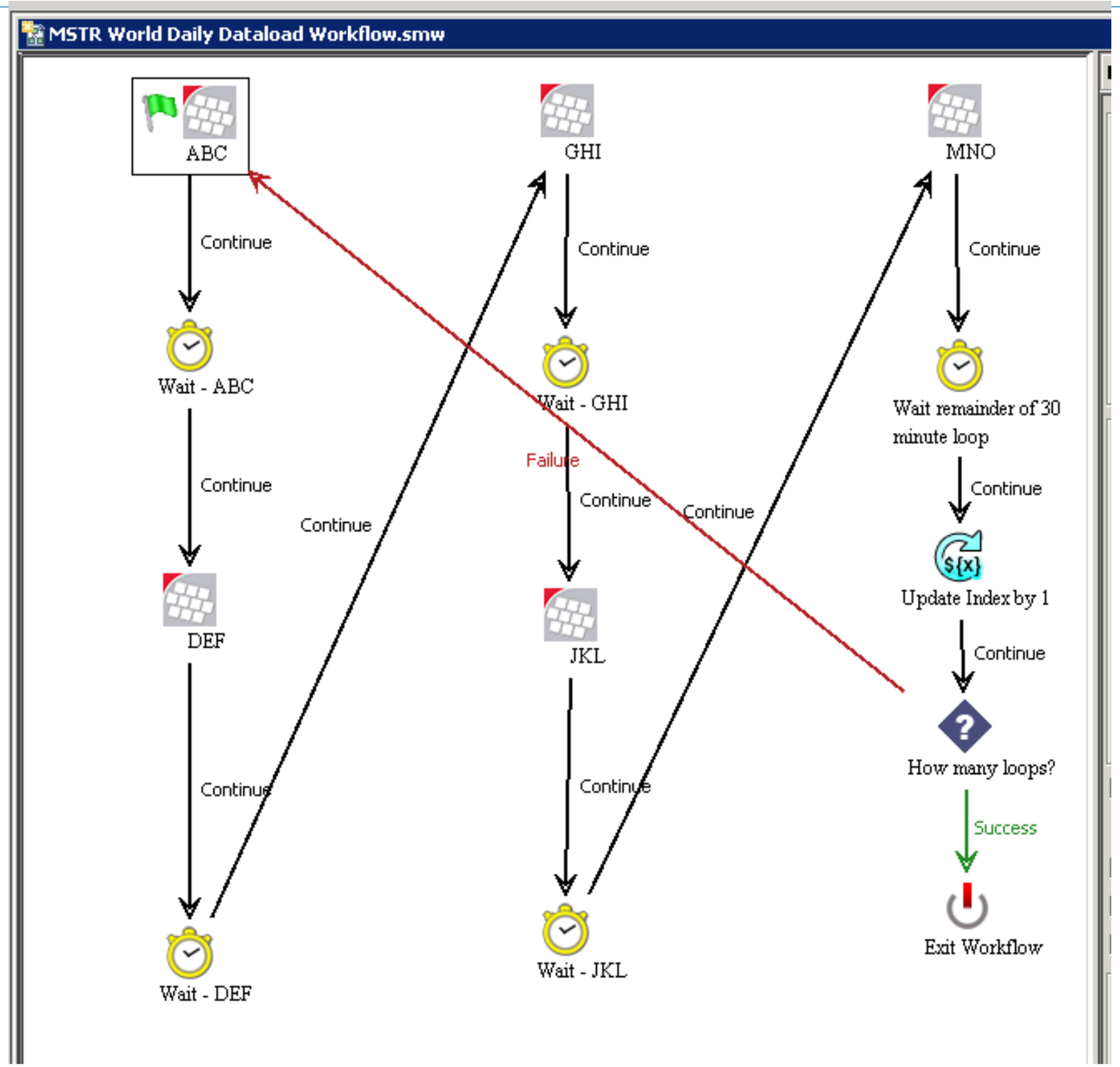
System Manager Workflow Components

–Update Parameter Process



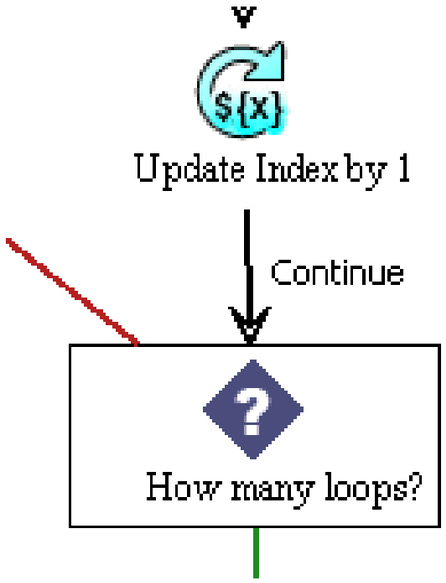


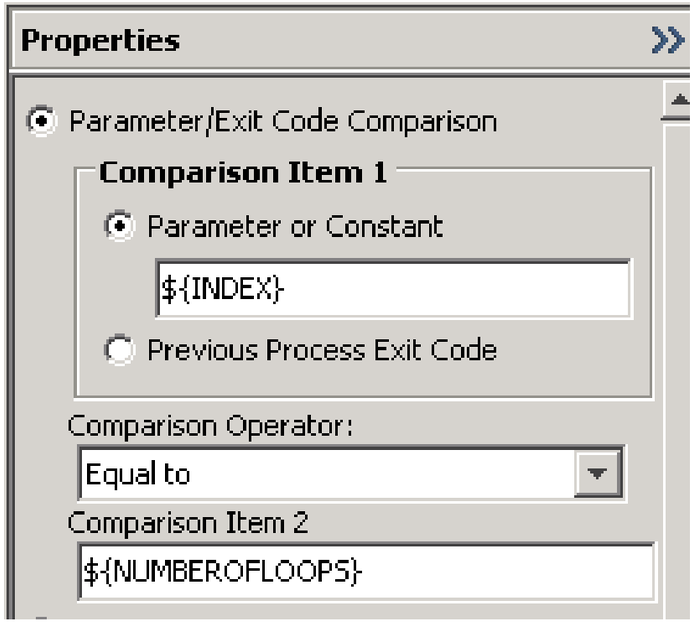


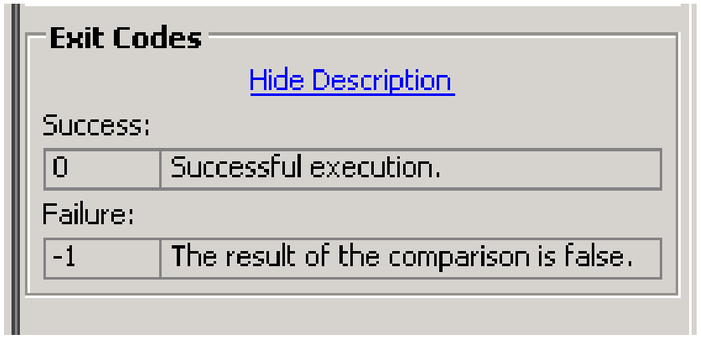

MSTR World Daily Dataload Workflow.smw
ABC
Continue
Wait - ABC
Continue
DEF
Continue
Wait - DEF
GHI
Continue
Wait - GHI
Failure
Continue
JKL
Continue
Wait - JKL
MNO
Continue
Wait remainder of 30 minute loop
Continue
${x}
Update Index by 1
Continue
How many loops?
Success
Exit Workflow
Continue
Continue
Continue

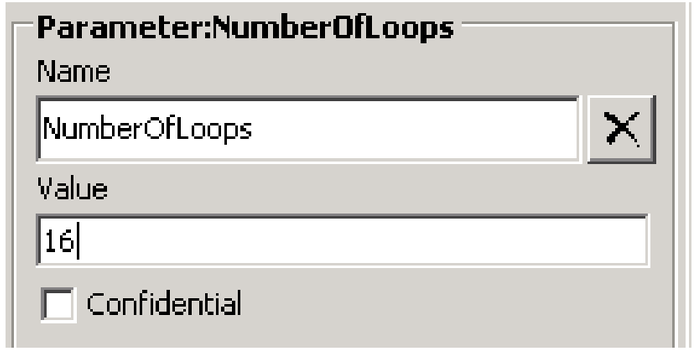
System Manager Workflow Components

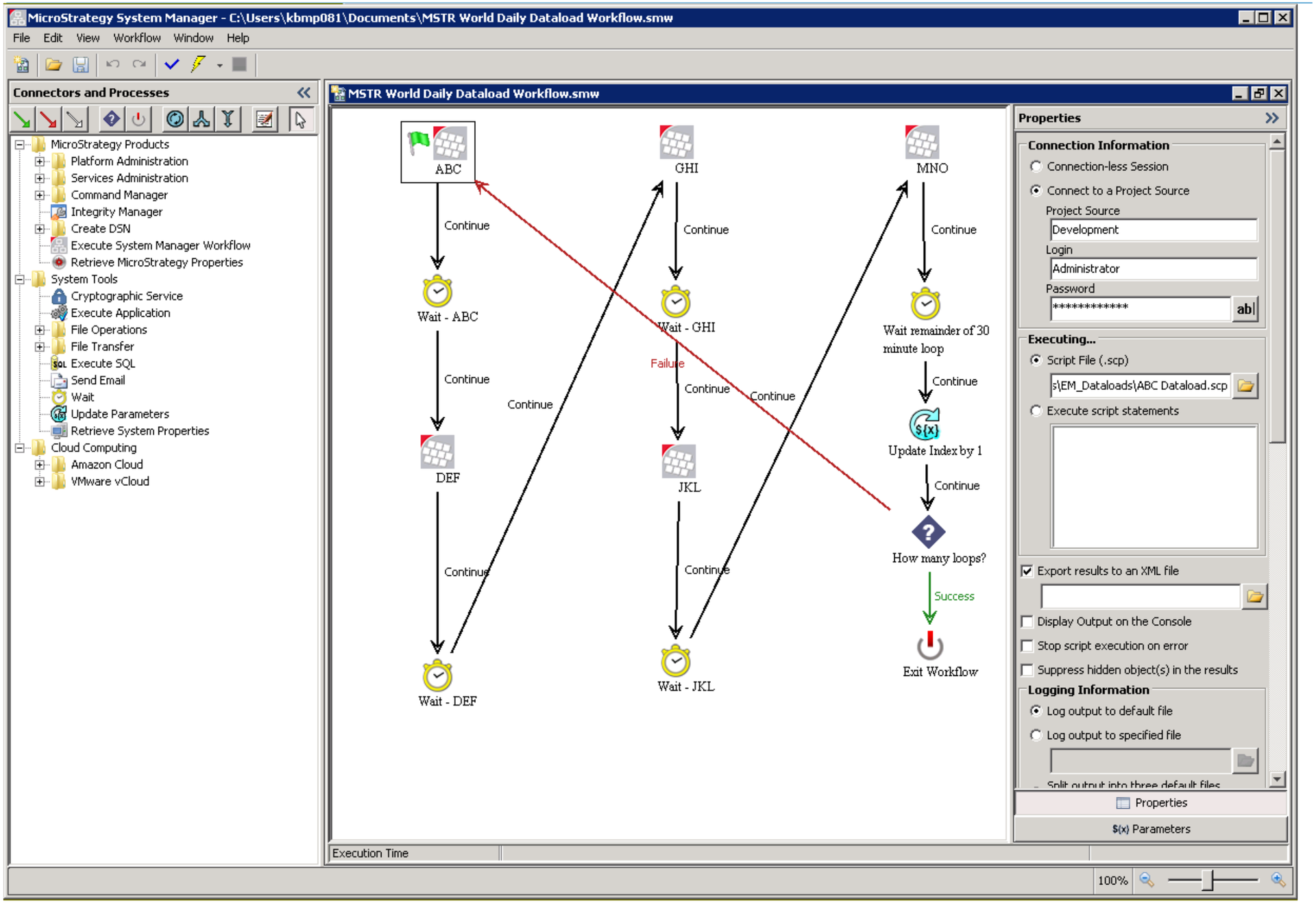
–Decision Process

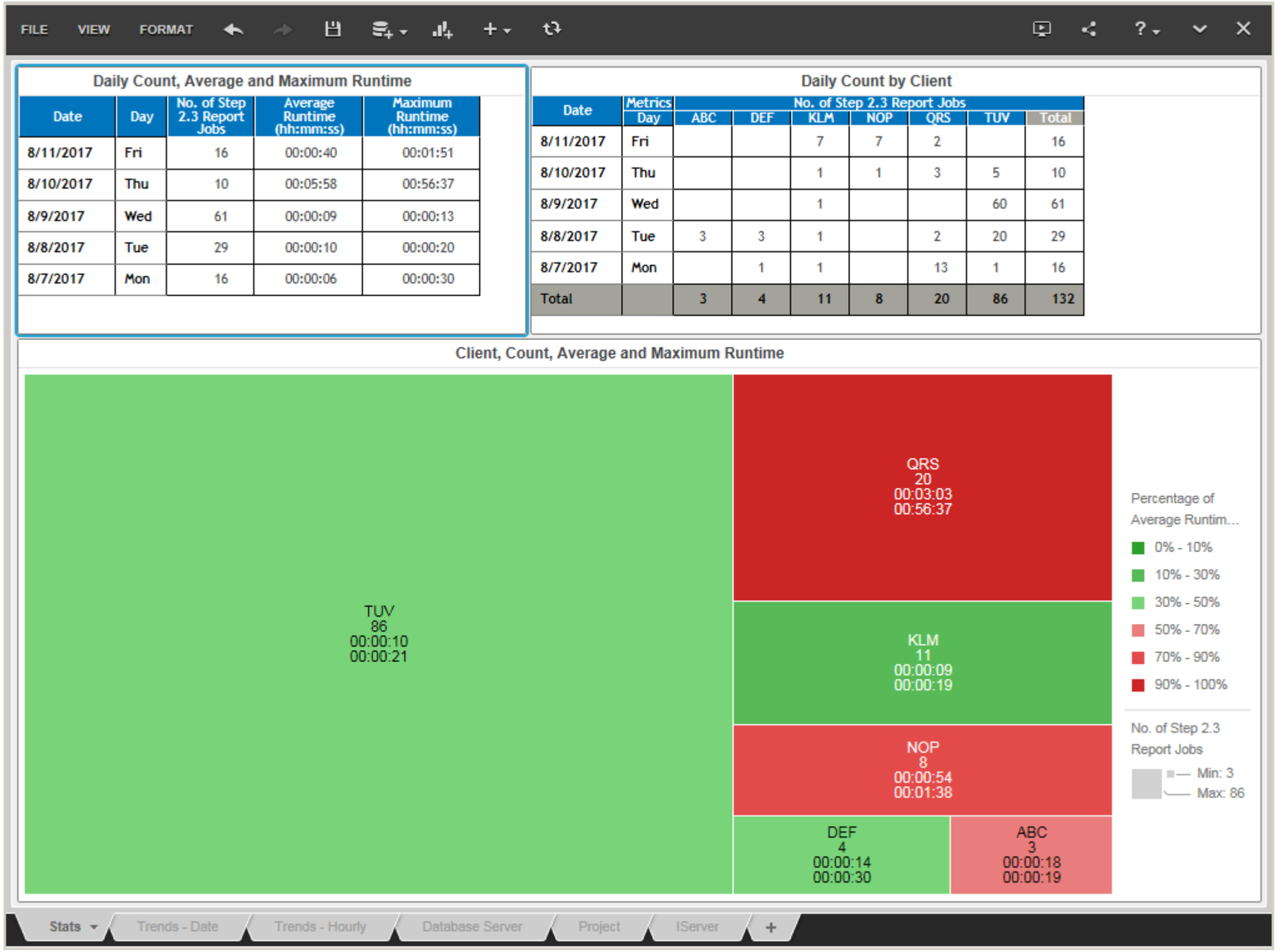






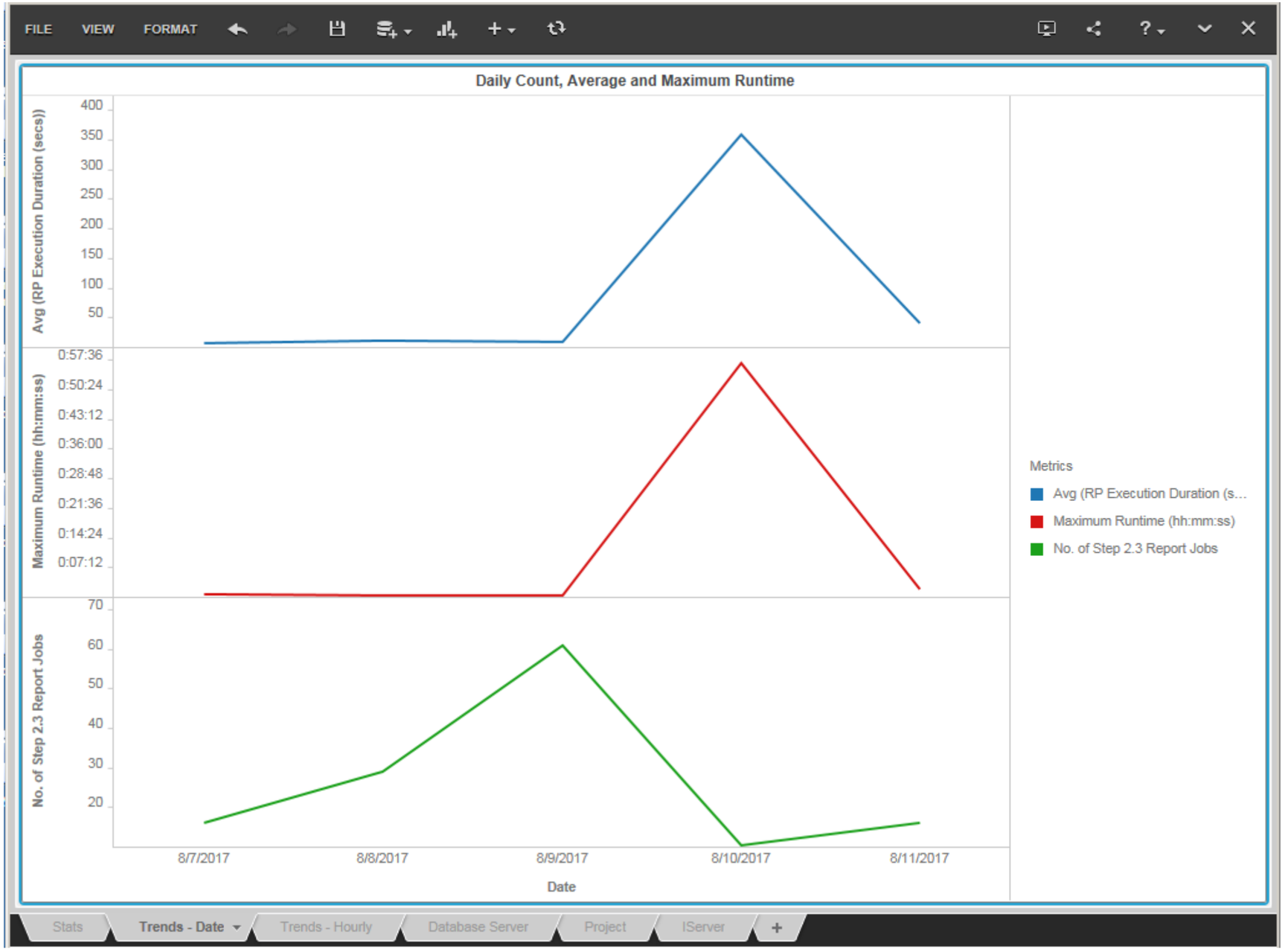


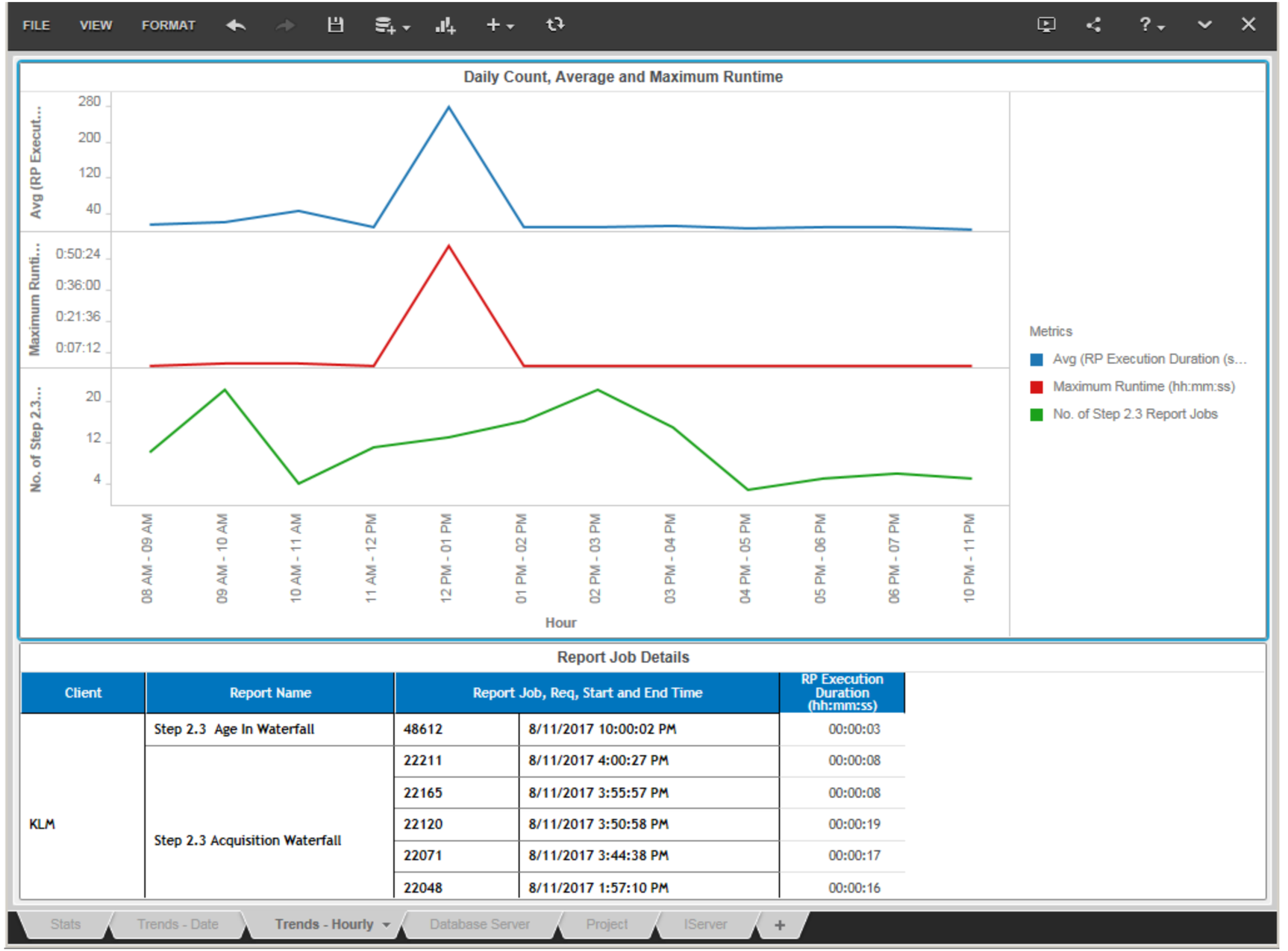

MicroStrategy System Manager - C:\Users\kbmp081\Documents\MSTR World Daily Dataload Workflow.smw
File Edit View Workflow Window Help
Connectors and Processes
MicroStrategy Products
Platform Administration
Services Administration
Command Manager
Integrity Manager
Create DSN
Execute System Manager Workflow
Retrieve MicroStrategy Properties
System Tools
Cryptographic Service
Execute Application
File Operations
File Transfer
Execute SQL
Send Email
Wait
Update Parameters
Retrieve System Properties
Cloud Computing
Amazon Cloud
VMware vCloud
MSTR World Daily Dataload Workflow.smw
ABC
Continue
Wait - ABC
Continue
DEF
Continue
Wait - DEF
GHI
Continue
Wait - GHI
Failure
Continue
JKL
Continue
Wait - JKL
MNO
Continue
Wait remainder of 30 minute loop
Continue
Update Index by 1
Continue
How many loops?
Success
Exit Workflow
Continue
Continue
Continue
Properties
Connection Information
Connection-less Session
Connect to a Project Source
Project Source
Development
Login
Administrator
Password
Executing...
Script File (.scp)
s\EM_Dataloads\ABC Dataload.scp
Execute script statements
Export results to an XML file
Display Output on the Console
Stop script execution on error
Suppress hidden object(s) in the results
Logging Information
Log output to default file
Log output to specified file
Properties
$(x) Parameters
Execution Time
100%

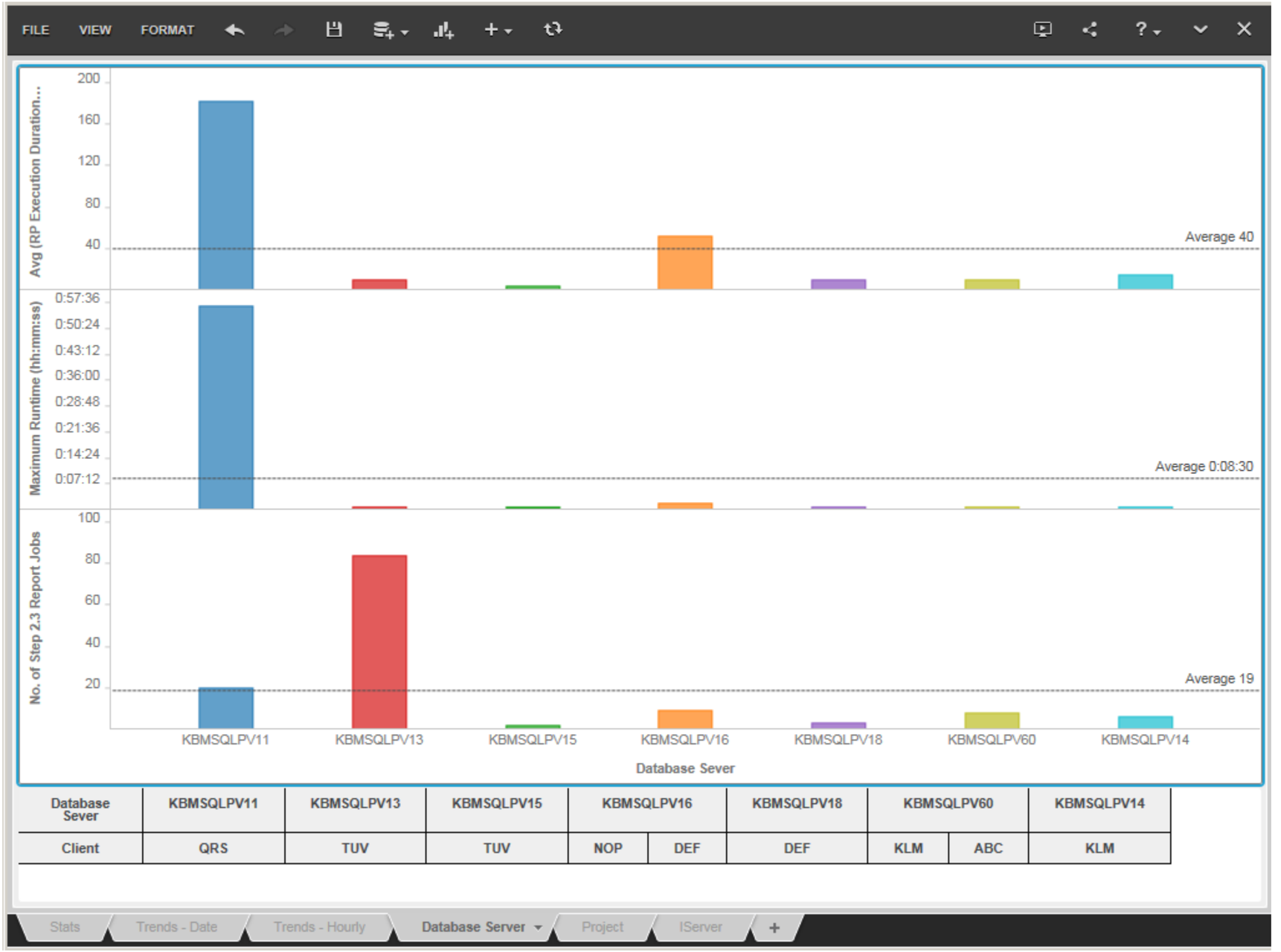


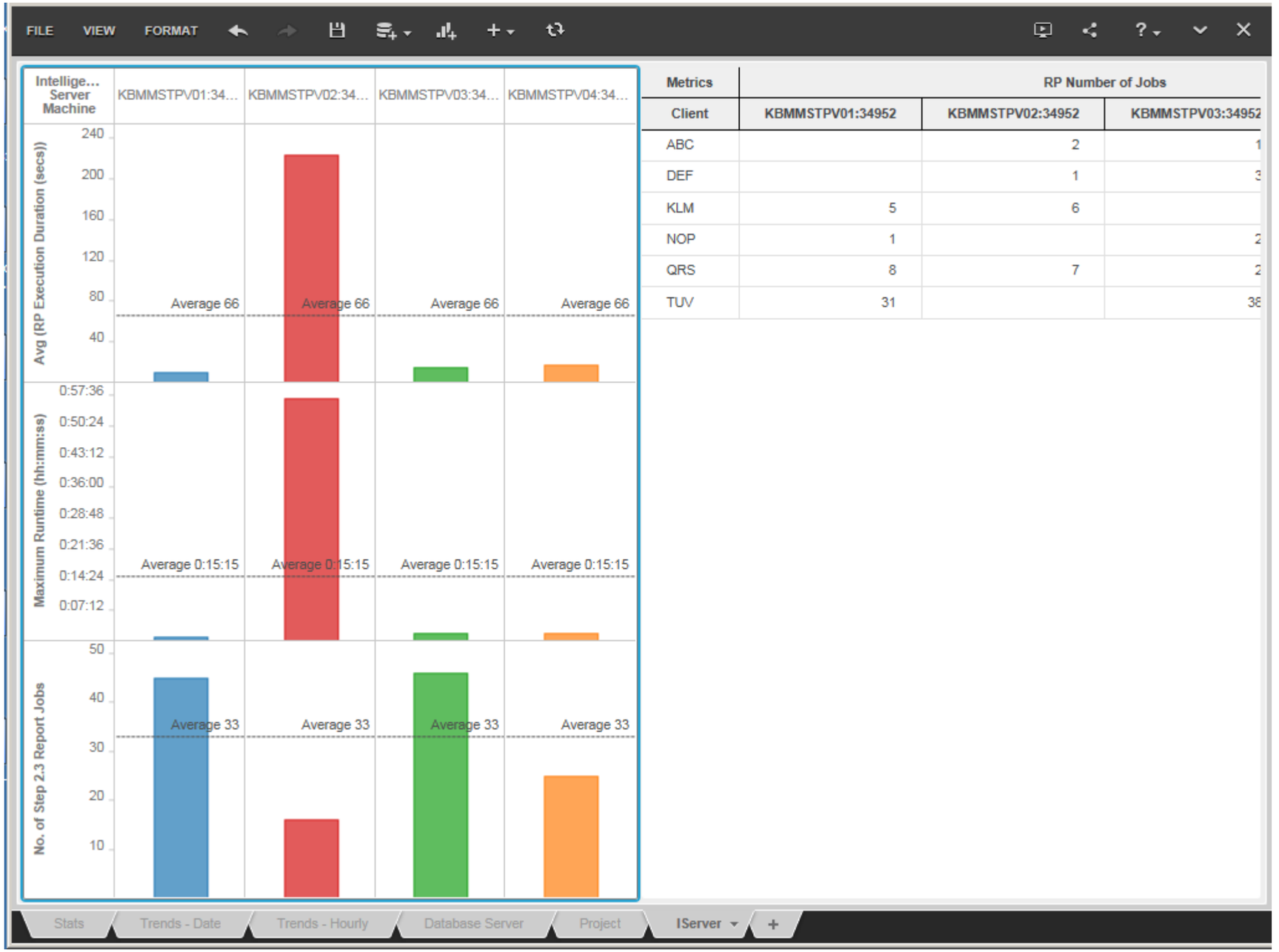
Date	Day	No. of Step 2.3 Report Jobs	Average Runtime (hh:mm:ss)	Maximum Runtime (hh:mm:ss)
8/11/2017	Fri	16	00:00:40	00:01:51
8/10/2017	Thu	10	00:05:58	00:56:37
8/9/2017	Wed	61	00:00:09	00:00:13
8/8/2017	Tue	29	00:00:10	00:00:20
8/7/2017	Mon	16	00:00:06	00:00:30

Date	Metrics / Day	No. of Step 2.3 Report Jobs						
		ABC	DEF	KLM	NOP	QRS	TUV	Total
8/11/2017	Fri			7	7	2		16
8/10/2017	Thu			1	1	3	5	10
8/9/2017	Wed			1			60	61
8/8/2017	Tue	3	3	1		2	20	29
8/7/2017	Mon		1	1		13	1	16
Total		3	4	11	8	20	86	132


FILE
VIEW
FORMAT
Daily Count, Average and Maximum Runtime
Avg (RP Execution Duration (secs))
400
350
300
250
200
150
100
50
Maximum Runtime (hh:mm:ss)
0:57:36
0:50:24
0:43:12
0:36:00
0:28:48
0:21:36
0:14:24
0:07:12
No. of Step 2.3 Report Jobs
70
60
50
40
30
20
8/7/2017
8/8/2017
8/9/2017
8/10/2017
8/11/2017
Date
Metrics
Avg (RP Execution Duration (s...
Maximum Runtime (hh:mm:ss)
No. of Step 2.3 Report Jobs
Stats
Trends - Date
Trends - Hourly
Database Server
Project
IServer

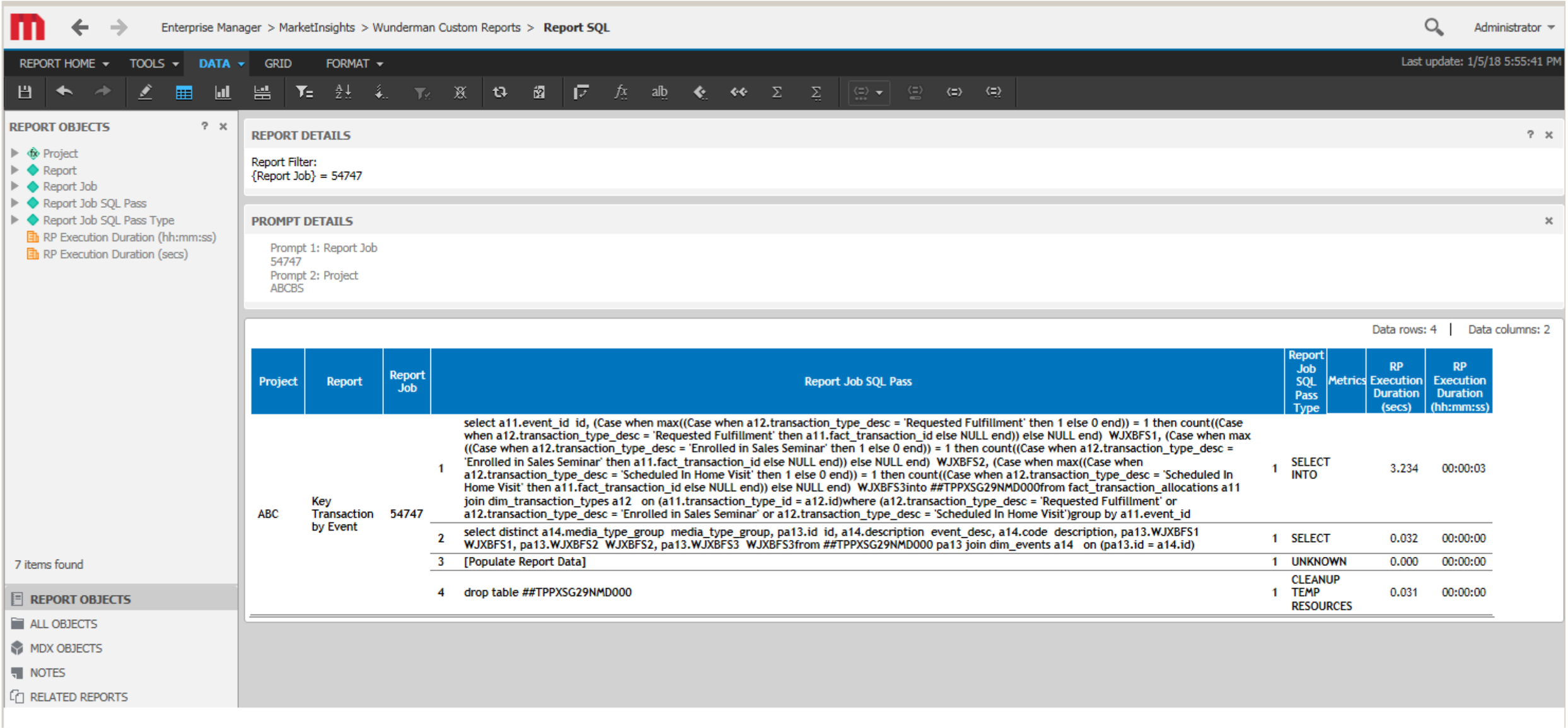

FILE
VIEW
FORMAT
Daily Count, Average and Maximum Runtime
Avg (RP Execut...
280
200
120
40
Maximum Runti...
0:50:24
0:36:00
0:21:36
0:07:12
No. of Step 2.3...
20
12
4
08 AM - 09 AM
09 AM - 10 AM
10 AM - 11 AM
11 AM - 12 PM
12 PM - 01 PM
01 PM - 02 PM
02 PM - 03 PM
03 PM - 04 PM
04 PM - 05 PM
05 PM - 06 PM
06 PM - 07 PM
10 PM - 11 PM
Hour
Metrics
Avg (RP Execution Duration (s...
Maximum Runtime (hh:mm:ss)
No. of Step 2.3 Report Jobs
Report Job Details
Client
Report Name
Report Job, Req, Start and End Time
RP Execution Duration (hh:mm:ss)
KLM
Step 2.3 Age In Waterfall
48612
8/11/2017 10:00:02 PM
00:00:03
Step 2.3 Acquisition Waterfall
22211
8/11/2017 4:00:27 PM
00:00:08
22165
8/11/2017 3:55:57 PM
00:00:08
22120
8/11/2017 3:50:58 PM
00:00:19
22071
8/11/2017 3:44:38 PM
00:00:17
22048
8/11/2017 1:57:10 PM
00:00:16
Stats
Trends - Date
Trends - Hourly
Database Server
Project
IServer


FILE
VIEW
FORMAT
Avg (RP Execution Duration...
200
160
120
80
40
Average 40
Maximum Runtime (hh:mm:ss)
0:57:36
0:50:24
0:43:12
0:36:00
0:28:48
0:21:36
0:14:24
0:07:12
Average 0:08:30
No. of Step 2.3 Report Jobs
100
80
60
40
20
Average 19
KBMSQLPV11
KBMSQLPV13
KBMSQLPV15
KBMSQLPV16
KBMSQLPV18
KBMSQLPV60
KBMSQLPV14
Database Sever
Database Sever | KBMSQLPV11 | KBMSQLPV13 | KBMSQLPV15 | KBMSQLPV16 | | KBMSQLPV18 | KBMSQLPV60 | | KBMSQLPV14
Client | QRS | TUV | TUV | NOP | DEF | DEF | KLM | ABC | KLM
Stats
Trends - Date
Trends - Hourly
Database Server
Project
IServer
+



Metrics	RP Number of Jobs		
Client	KBMMSTPV01:34952	KBMMSTPV02:34952	KBMMSTPV03:34952
ABC		2	1
DEF		1	3
KLM	5	6	
NOP	1		2
QRS	8	7	2
TUV	31		38

Report	Report Job Start and End Timestamp			Prompt Title	Prompt Answer	Drop
Custom Report	1/3/2018 6:04:26 PM	1/3/2018 6:04:30 PM	7597	Select the Net Worth Description(s) for this report.		1
				Please select the appropriate state(s) to be included in this report.	FL	1
				Please select Employment State(s) for this report.		1
				Please choose the Zipcode(s) for this report.		1
				Maximum Age		1
				Please choose the Member Product Code(s) for this report.		1
				Please choose the appropriate counties for this report (Optional)	Duval County, FL,Lake County, FL,Pinellas County, FL,Polk County, FL,Volusia County, FL,Hernando County, FL,Pasco County, FL,Manatee County, FL,Marion County, FL,Palm Beach County, FL,Seminole County, FL,Miami-Dade County, FL,Hillsborough County, FL,Osceola County, FL,Orange County, FL,Broward County, FL,Baker County, FL,Hardee County, FL,Martin County, FL,Saint Lucie County, FL	1
				Please select the model(s) and decile(s) for this report.		1
				Please select the Member Product Class Code(s) for this report.		1
				Please choose the Person AB values for this report.		1
				Please select Gender(s) for this report.		1
				Please choose the appropriate sales market for this comparison (Optional)		1
				Please select Demographic Code(s) for this report.		1
				Please enter the appropriate birth months	1/1/1953,2/1/1953,3/1/1953,4/1/1953,5/1.	1
				Please choose to suppress by Person_ID or Address_ID	person_id	1
				Please choose the Member Product Type Code(s) for this report.		1
				Please choose the Brand Code(s) for this report.	COMMERCIAL,DUAL,FED PROG,SHP,ST PROG,	1



Project	Report	Report Job	Report Job SQL Pass		Report Job SQL Pass Type	Metrics	RP Execution Duration (secs)	RP Execution Duration (hh:mm:ss)
ABC	Key Transaction by Event	54747	1	select a11.event_id id, (Case when max((Case when a12.transaction_type_desc = 'Requested Fulfillment' then 1 else 0 end)) = 1 then count((Case when a12.transaction_type_desc = 'Requested Fulfillment' then a11.fact_transaction_id else NULL end)) else NULL end) WJXBFS1, (Case when max ((Case when a12.transaction_type_desc = 'Enrolled in Sales Seminar' then 1 else 0 end)) = 1 then count((Case when a12.transaction_type_desc = 'Enrolled in Sales Seminar' then a11.fact_transaction_id else NULL end)) else NULL end) WJXBFS2, (Case when max((Case when a12.transaction_type_desc = 'Scheduled In Home Visit' then 1 else 0 end)) = 1 then count((Case when a12.transaction_type_desc = 'Scheduled In Home Visit' then a11.fact_transaction_id else NULL end)) else NULL end) WJXBFS3into ##TPPXSG29NMD000from fact_transaction_allocations a11 join dim_transaction_types a12 on (a11.transaction_type_id = a12.id)where (a12.transaction_type_desc = 'Requested Fulfillment' or a12.transaction_type_desc = 'Enrolled in Sales Seminar' or a12.transaction_type_desc = 'Scheduled In Home Visit')group by a11.event_id	1	SELECT INTO	3.234	00:00:03
			2	select distinct a14.media_type_group media_type_group, pa13.id id, a14.description event_desc, a14.code description, pa13.WJXBFS1 WJXBFS1, pa13.WJXBFS2 WJXBFS2, pa13.WJXBFS3 WJXBFS3from ##TPPXSG29NMD000 pa13 join dim_events a14 on (pa13.id = a14.id)	1	SELECT	0.032	00:00:00
			3	[Populate Report Data]	1	UNKNOWN	0.000	00:00:00
			4	drop table ##TPPXSG29NMD000	1	CLEANUP TEMP RESOURCES	0.031	00:00:00