



Getting Started with Cisco Tidal Enterprise Scheduler 6.2

May 2014

Meeting Logistics

- Attendees will be placed on mute upon joining
- Please use the Chat panel if you have any technical difficulties with audio or in viewing the presentation
- Please use the Q&A panel to ask questions
- Session will be recorded for offline reference
- Slides used in this session will be shared over email after the session

Agenda

TES 6.2 Updates

- What's new in TES 6.2

- TES 6.2 Early Field Trial Update

Architecture Update

- Recap on TES 5.3.1 to 6.1 Architecture Changes

- TES 6.2 Architecture Changes

Planning your TES 6.2 Implementation

- TES 6.2 Infrastructure Requirements

- Upgrade/migration scenarios

Best Practices and Recommendations

Reference documents

Key Takeaways

TES 6.2 Updates

TES 6.2 Release Drivers

- Expand on Private and Public Cloud Automation capabilities with a new adapter for UCS Manager
- Improve performance and user experience of the web application
- Address key enhancements to meet large organizational needs
- Provide a Java client to deliver desktop client performance

What is new in TES 6.2

New Adapter and Updates

- UCS Manager Adapter – stop/start, restart
- Roll-up of support for latest versions

Lightweight Web-deployable Java Client

Web Client Perf & Usability Improvements

Transporter Improvements

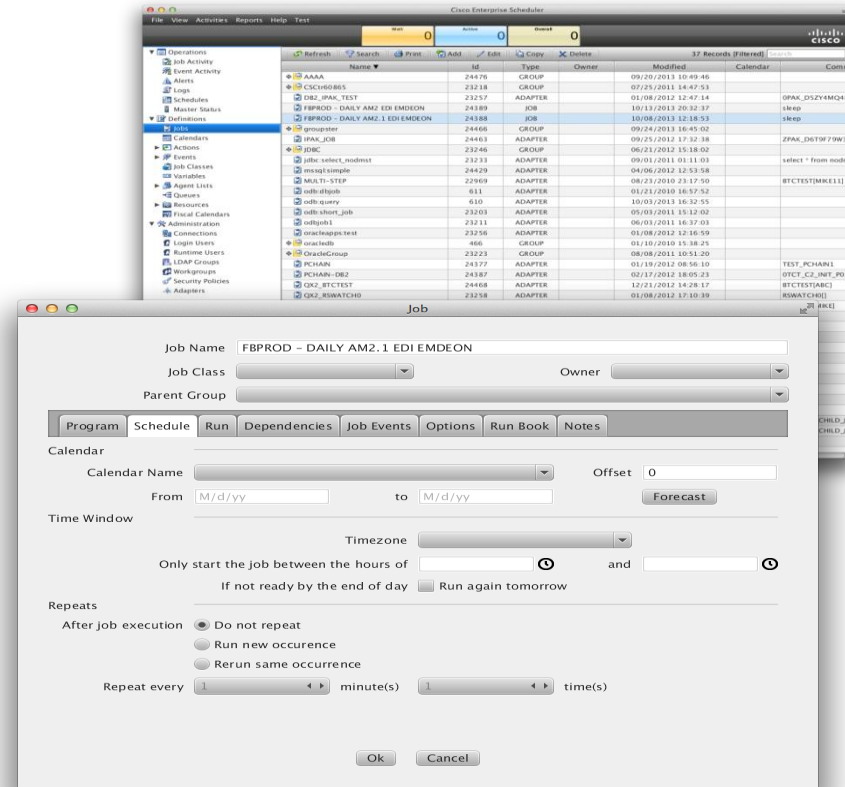
Support for multi-domain AD/LDAP authentication

Runtime users for TES workgroups

Ability to terminate user sessions

CM install process to utilize external cache

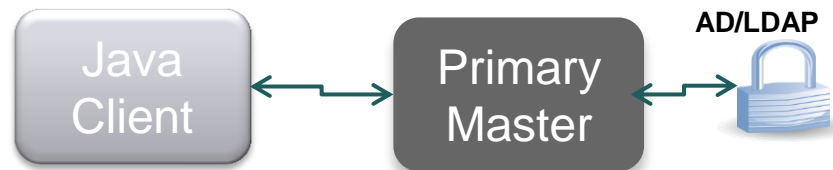
API Guide Update



TES 6.2 EFT Update

- TES 6.2 Early Field Trial – a program to solicit early customer feedback
- Select customers and partners were invited to participate
- Program ran for 6 weeks and close to 25 unique issues were reported
- Engineering scrubbed the reported items and critical items are getting fixed for GA release
- Key Improvements based on EFT feedback:
 - ✓ Java Client data reading has been optimized to reduce memory and initial load time
 - ✓ Solution for RPC error on the web client

TES 6.2 Java Client



- Connects directly to the Master through the same APIs that CM uses
- The Java client also syncs data from the Master, but it is many times faster than the CM because all data is stored into memory rather than to an external database. Most DBs sync within seconds
- Smooth scrolling with zero latency since data is rendered from memory (i.e. no paging delay)
- Faster search and filtering as well since data is queried from memory instead of remotely from an external database
- Can run as a standalone Java app or run through a browser, such as Firefox, IE
- Java client updates will be deployed through the Master
- Java client requires JRE 1.7 and above

"I also want to mention that the Java client is working very good. It's as fast as the 5.3.1 thick client, if not faster."

- Feedback from EFT

"The agent list window is vastly improved. The FX client is much, much, faster than the web client"

- Feedback from EFT

TES 6.2 Java Client Baseline

Job Definition	Sub Tasks & Number of Records	5.3.1 (40K records)	6.2 Java Client (56K records)
Expand All	<ul style="list-style-type: none"> 25K records 50K records 	0-1 sec	0-1 sec 0-1 sec
Collapse All	<ul style="list-style-type: none"> 25K records 50K records 	0-1 sec	0-1 sec 0-1 sec
Scrolling (with 25 K)	<ul style="list-style-type: none"> Top to Bottom Bottom to Top 	Instantaneous	Instantaneous
Scrolling (with 50 K)	<ul style="list-style-type: none"> Top to Bottom Bottom to Top 	Instantaneous	Instantaneous
Filter	<ul style="list-style-type: none"> Show Group Unchecked 	0-1 sec	0-1 sec
	<ul style="list-style-type: none"> Show Groups Checked 	0-1 sec	0-1 sec

Job Activities	Sub Tasks & Number of Records	5.3.1 (40K records)	6.2 Java Client (50K records)
Expand All	<ul style="list-style-type: none"> 25K records 50K records 	0-1 sec 0-1 sec	0-1 sec 0-1 sec
Collapse All	<ul style="list-style-type: none"> 25K records 50K records 	0-1 sec 0-1 sec	0-1 sec 0-1 sec
Scrolling (with 25 K)	<ul style="list-style-type: none"> Top to Bottom Bottom to Top 	Instantaneous	Instantaneous
Scrolling (with 50 K)	<ul style="list-style-type: none"> Top to Bottom Bottom to Top 	Instantaneous	Instantaneous
Filter	<ul style="list-style-type: none"> Show Jobs (Expanded) 	2-3 sec	0-1 sec
	<ul style="list-style-type: none"> Show Jobs (Collapsed) 	1-2 sec	0-1 sec
	<ul style="list-style-type: none"> Show Groups 	1-2 sec	0-1 sec
	<ul style="list-style-type: none"> Show Jobs & Show Groups 	1-2 sec	0-1 sec

Cisco Enterprise Scheduler

Application View Activities Reports Help

sjc-tesqe-auto1.tidalsoft.local[Backup] **90** **13** **24%** qatest (TIDALSOFT)
 Wait Active Overall Mon 12, 2014 03:08 PM

Enterprise Scheduler

Refresh Print Add Edit Delete 70 Records Search

Name	Machine	Type	Platform	Enabled	Modified
BO Adapter[BusinessObjects]	HOU-BOE-01	Adapter Service	BusinessObjects	Yes	12/12/2013 10:0
BO BIP Adapter - sjc-bo4-qa1[BO ...]	sjc-bo4-qa1	Adapter Service	BO BI Platform	Yes	03/15/2014 03:1
BO Ds Adapter[BusinessObjects DS]	sjc-bo4-qa1	Adapter Service	BusinessObjects DS	Yes	12/11/2013 02:4
BOBIP - sjc-bo4-qa3[BO BI Platform]	sjc-bo4-qa3	Adapter Service	BO BI Platform	Yes	04/03/2014 01:2
Cognos Adapter[Cognos]	sjc-cognos-10-9300	Adapter Service	Cognos	No	02/25/2014 10:4
cognos-10-02[Cognos]	cognos-10-02.tidalsoft.lo...	Adapter Service	Cognos	Yes	07/24/2013 05:3
DEV13/SAP[SAP]	hpdev13/001/*	Adapter Service	SAP	Yes	04/02/2014 05:3
dv3csf.cisco.com - OracleApps[Ora...	jdbc:oracle:thin:@dv3csf...	Adapter Service	OracleApps	No	04/18/2014 10:2
EC2 Adapter[AmazonEC2]	http://ec2.us-west-1.ama...	Adapter Service	AmazonEC2	No	01/22/2014 01:2
EC2 Adapter - conn2[AmazonEC2]	http://ec2.us-west-1.ama...	Adapter Service	AmazonEC2	No	07/17/2013 10:2
Email Adpater[Email]	TIDAL-MAIL-00.tidalsoft.l...	Adapter Service	Email	Yes	12/13/2013 02:3
Example Connection[Windows]	10.99.134.132	Agent	Windows	No	12/04/2012 05:4
Hive Adapter - conn2[Hive]	172.25.6.136	Adapter Service	Hive	Yes	04/09/2014 12:4
Hive Adpater[Hive]	172.25.6.136	Adapter Service	Hive	No	02/13/2014 03:5
Horizon Adapter[null]	pal-mikepc3	Adapter Service		Yes	08/02/2013 03:2
Informatica[Informatica]	[Domain_sjc-q9-wvm3/rs...	Adapter Service	Informatica	Yes	03/14/2014 10:5
JDBC Adapter[JDBC]	sjc-tesqe-auto1.tidalsoft.l...	Adapter Service	JDBC	Yes	04/02/2014 03:0
JDE 9.1[JDEwards]	172.21.46.114	Adapter Service	JDEwards	No	02/13/2014 03:5
JDE-898[JDEwards]	jde-898-002.tidalsoft.local	Adapter Service	JDEwards	Yes	08/29/2013 01:1
JDE898 - SJC-JDE898[JDEwards]	SJC-JDE898.tidalsoft.local	Adapter Service	JDEwards	Yes	05/20/2013 02:4
JMS Adapter[JMS]	t3://sjc-weblogic-01.tidal...	Adapter Service	JMS	No	02/13/2014 03:5
MPE Connection[MPE/iX]	machine name	Agent	MPE/iX	No	10/22/2013 04:0
MSSQL Adapter[MSSql]	jdbc:sqlserver://sjc-tesqe-...	Adapter Service	MSSql	No	04/02/2014 03:1

Java Client Release Phases

TES 6.2 GA (Phase 1)

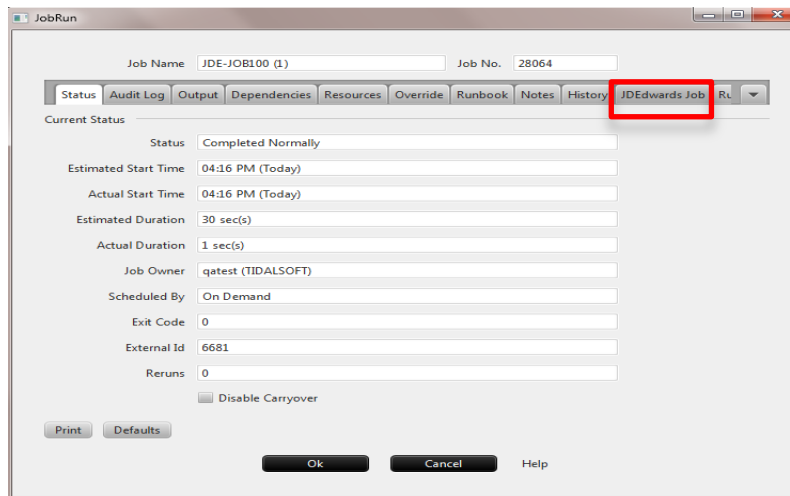
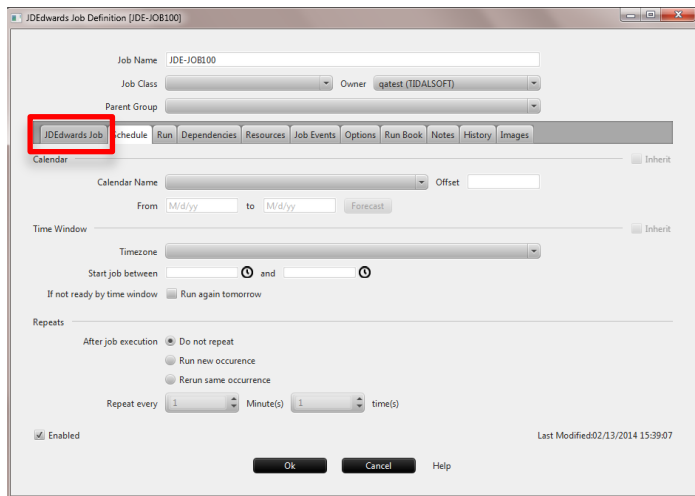
- Administrative Screens
- Operations Screens
 - Job Activities
 - Events
 - Alerts
 - Logs
 - Master Status
 - Schedules
- Definitions
 - Job Definitions
 - Calendars
 - Actions
 - Events
 - Job Classes
 - Variables
 - Agent Lists
 - Queues
 - Resources
 - Fiscal Calendars
- Agent Jobs
- JDBC Adapter
- Web Services Adapter
- Business Objects DS Adapter
- MS SQL DB Adapter
- SSH Adapter
- Data Mover
- HP Open View
- Informatica Adapter
- SAP Adapter
- Cognos Adapter
- Email Adapter
- JMS Adapter

Post TES 6.2 – July Drop (Phase 2)

- Business Views
- Reports
- Amazon S3 Adapter
- PeopleSoft Adapter
- UCS Adapter
- Business Objects BI Adapter
- Business Objects Adapter
- JDE Adapter
- Oracle Apps Adapter
- Oracle DB Adapter
- Amazon EC2 Adapter
- VMWare Adapter
- Hive Adapter
- Sqoop Adapter
- Map Reduce Adapter
- Remote Job Adapter

What does this mean?

- Users can continue to view and monitor the jobs for even the adapters that are not supported in Phase 1. However, they won't be able to edit the jobs as the Adapter specific Tab in the Job Definition and Job Activity console will be missing



- Web Client will continue to have full support for all the adapters

Web Client Improvements

- Configurable option for Auto refresh interval
- Bulk operation improvements (operation tune up as well as UI feedback)
- JVM tuning on Client Manager
- Optimized Client Manager data layer and UI components in Job Definition and Job Activity screens for:
 - Expand All (one-click expand)
 - Collapse All (one-click collapse)
 - Scrolling (optimized load on DB)
 - Filtering (optimized query and fixed some known bugs)

Note: These data layer optimizations are applicable only for external Client Manager database (Oracle/MS SQL Server)

“The Web client is much better than previous versions”

- Feedback from EFT

TES 6.2 Web Client Performance Baseline

Job Definition – 30K Records (in Seconds)	6.1 Baseline	6.2 Baseline	% Improvement
Page Load	13.7	5.9	133%
Select All	7.6	3.2	138%
Expand Selected	16.9	2.2	668%
Expand all	585	5.1	11371%
Refresh	12.1	8.5	42%
Scroll from Top to Bottom	897	4.7	18985%
Scroll half way down	393	6.5	5918%
Scroll Bottom to Top	390	5.9	6510%
Collapse	1046	2.7	38641%

Job Run/JAC – 30K Records (in Seconds)	6.1 Baseline	6.2 Baseline	% Improvement
Expand All	5.7	2.9	97%
Collapse All	170	1.9	8847%
Scroll from Top to Bottom	8.7	4.2	107%
Scroll from Bottom to Top	7.9	4.3	84%

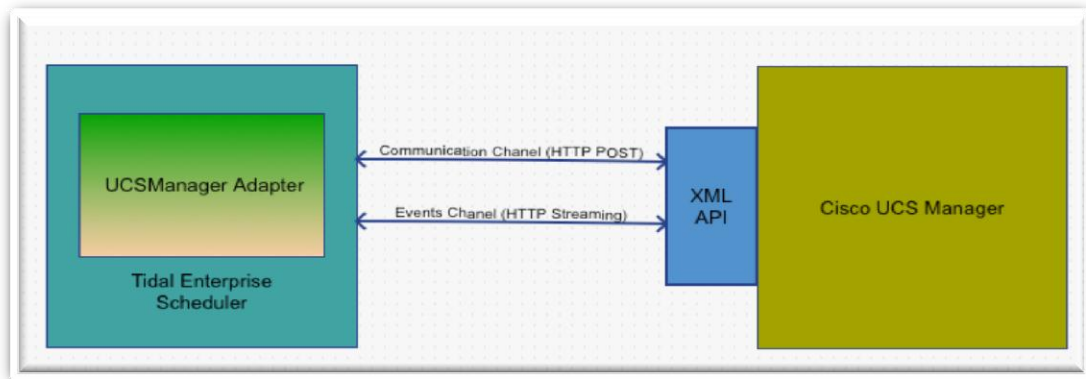
Transporter Improvements

- Parallel Read – read time optimized
- Optimized Data Validation
- Lot of usability enhancements and bug fixes

Transaction (Time in Seconds)	6.1 Baseline	6.2 Baseline	% Improvement	Remarks
Reading data	543	236	130%	Achieved with parallelism and tuning post read operations
Transporting First (1) Job	4264	115	3608%	Job has dependency depth level=184
Transporting 15 jobs	9032	640	1311%	Complex jobs (nested dependency)

UCS Manager Adapter

UCS Manager Adapter integrates with UCSM 2.0 through XML API



Power up UCS Server

Power up a UCS server using the service profile associated with it

Power down UCS Server

Power down a UCS server using its service profile.

Reset UCS Server

Reboot a UCS server blade associated with a service profile.

Adapter for UCS Manager

Connection Definition (Edit Mode) [UCSM - ia-ucs-400 - HTTP[UCSManager]]

UCSManager Adapter

Name UCSM - ia-ucs-400 - HTTP

General UCSManager Connection Options Outages Description

UCS Manager Host Name ia-ucs-400.tidalsoft.local

UCS Manager User Tidalsoft\euribe

Port 80

UCS Manager User need to have the following permissions:

- Server Equipment
- Server Maintenance
- Server Policy
- Service Profile Config
- Service Profile Config Policy
- Service Profile Ext Access
- Service Profile Server
- Service Profile Server Oper
- Service Profile Server Policy

UCSManager Job Definition [ucsm - shut graceful-chassis1[\aUCSM - ia-ucs-400 - HTTP]]

UCSManager Job Name

Job Class

Owner euribe

Parent Group \aUCSM - ia-ucs-400 - HTTP

UCSManager Job Schedule Run Dependencies Resources Job Events Options Run Book Notes History Images

Category

Action

Server Dn

Server Profile Dn

Management Tree

Param

Equipment

Chassis

Servers

Chassis 1

Server

Server

Server

Server

Server

Enabled

Job Details [boot - chassis-2/blade-8 (2)]

Job Name boot - chassis-2/blade-8 (2) Job No. 3663

Status Audit Log Output Dependencies Resources Override Runbook Notes History UCSManager Run Info Cancel

Refresh output

Run: 1

```
-----  
Request Sent To Server  
<configConfMos inHierarchical="false" cookie="Not Shown"><inConfigs><pair key="o  
-----  
Received Response from Server  
-----  
HTML Headers:  
Response:200  
User-Agent:Jakarta Commons-HttpClient/3.0.1  
Host:ia-ucs-400.tidalsoft.local  
Content-Length:262  
Content-Type:application/x-www-form-urlencoded;charset=UTF-8  
-----  
Server FSM
```

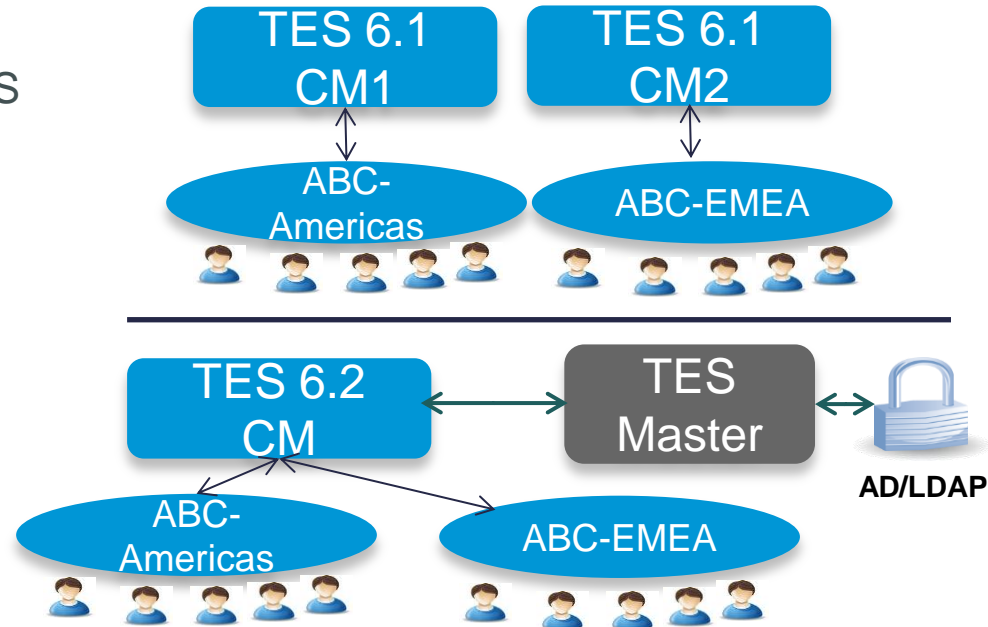
Print Defaults

Multi-domain AD/LDAP Authentication

With TES 6.2, a single instance of Client Manager and Master can be configured to authenticate users across multiple AD/LDAP domains

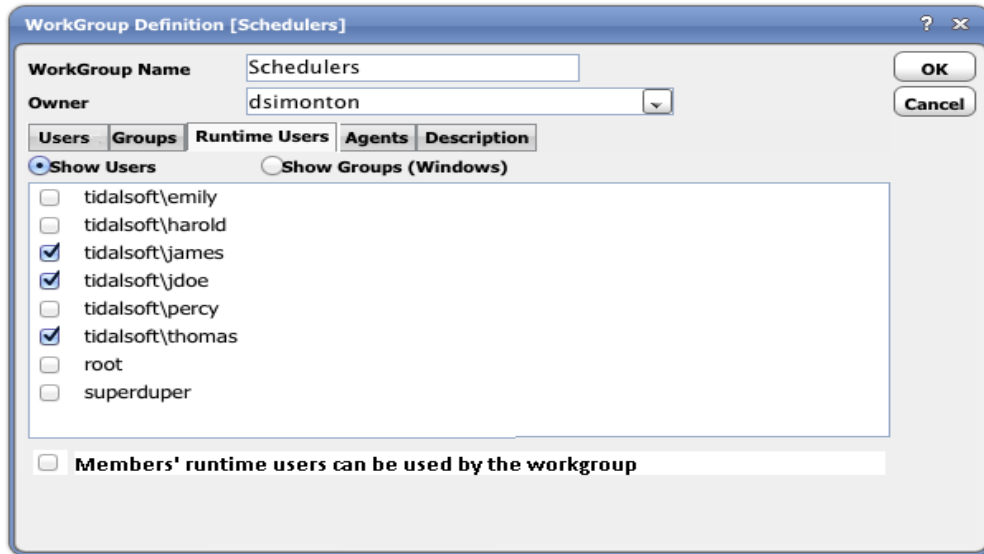
Example: If ABC-Americas and ABC-EMEA are two geographic AD domains then with TES 6.1 they need to have two instances of Client Managers (say CM1 and CM2). CM1 is configured to authenticate users in ABC-Americas and CM2 is configured to authenticate users in AMC-EMA

TES 6.2 addresses this through central authentication mechanism



Runtime User Support for TES Workgroups

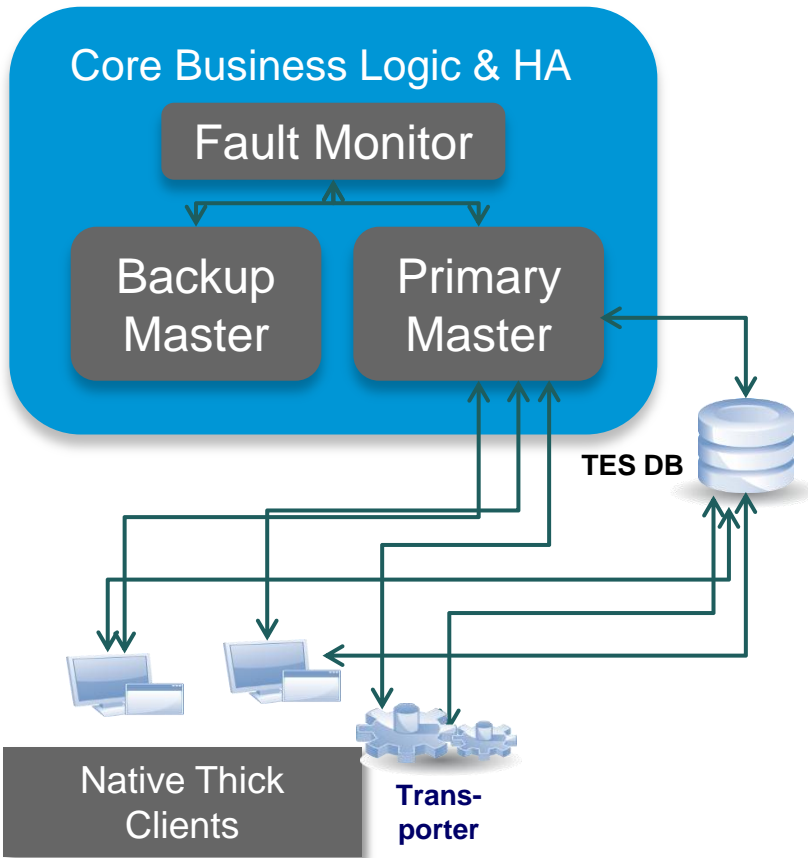
- A new “Runtime Users” tab is added to the Workgroup definition dialog where runtime users can be associated with the workgroup
- Members’ runtime users can be used by the workgroup
 - When checked all the members of the Workgroup can leverage the Runtime users selected in this tab for job definitions
 - When unchecked only the runtime users specifically assigned to the members can be used in jobs owned by the workgroup
- The equivalent of the legacy behavior is to have “Members’ runtime users...” checked and to have no additional runtime users selected



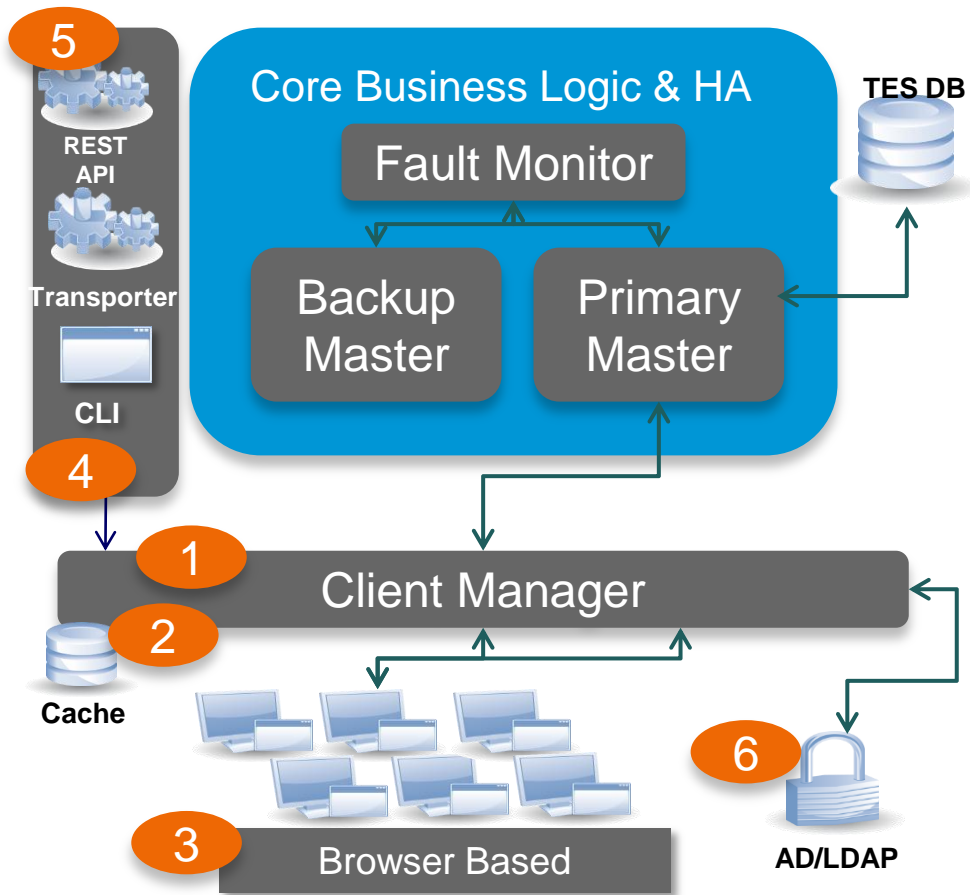
“This is huge... We will definitely assign runtime users only at the group level.”
- Feedback from EFT

Architecture Update

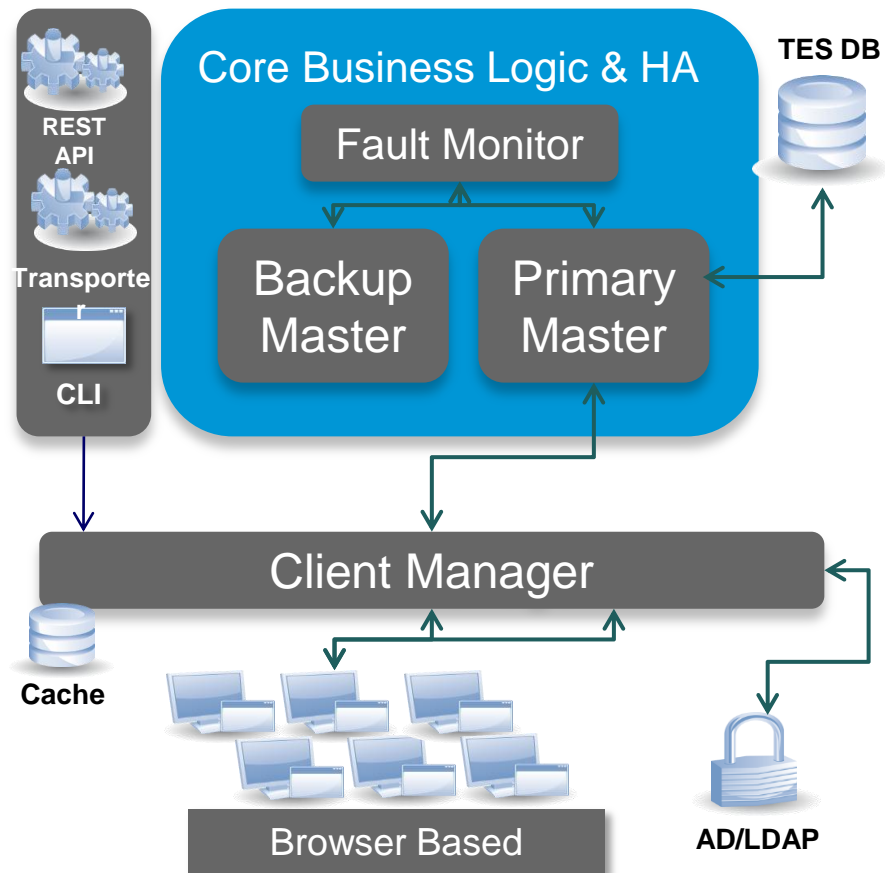
TES 5.3.1



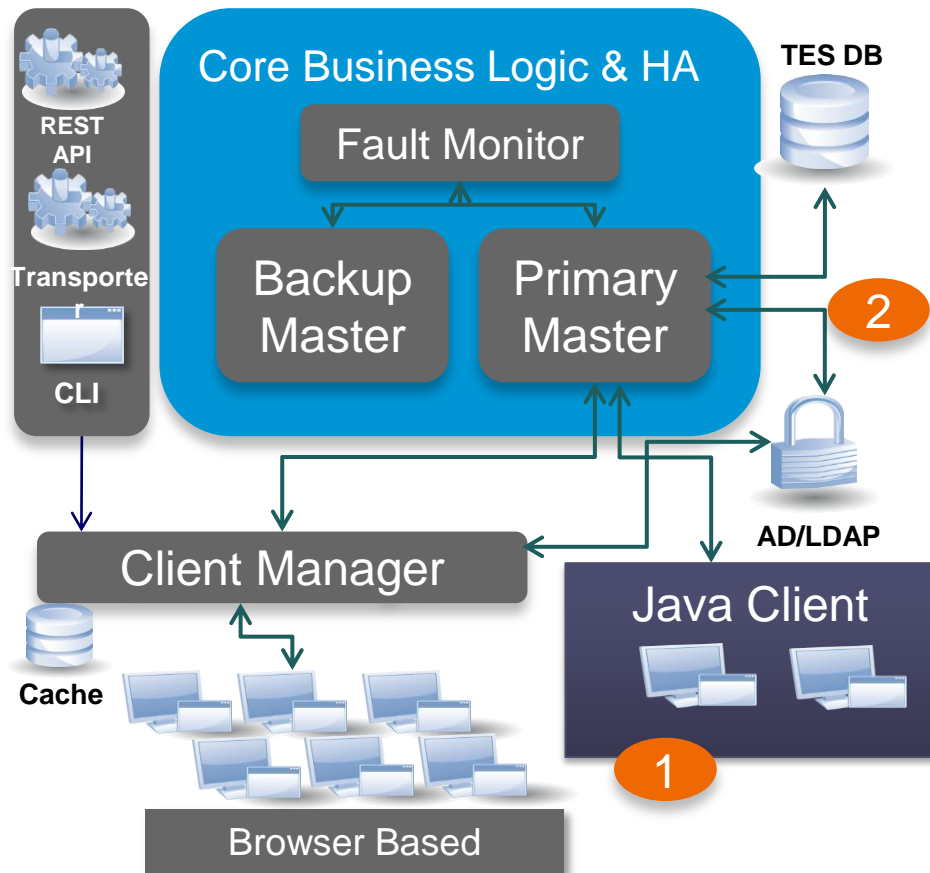
TES 6.1



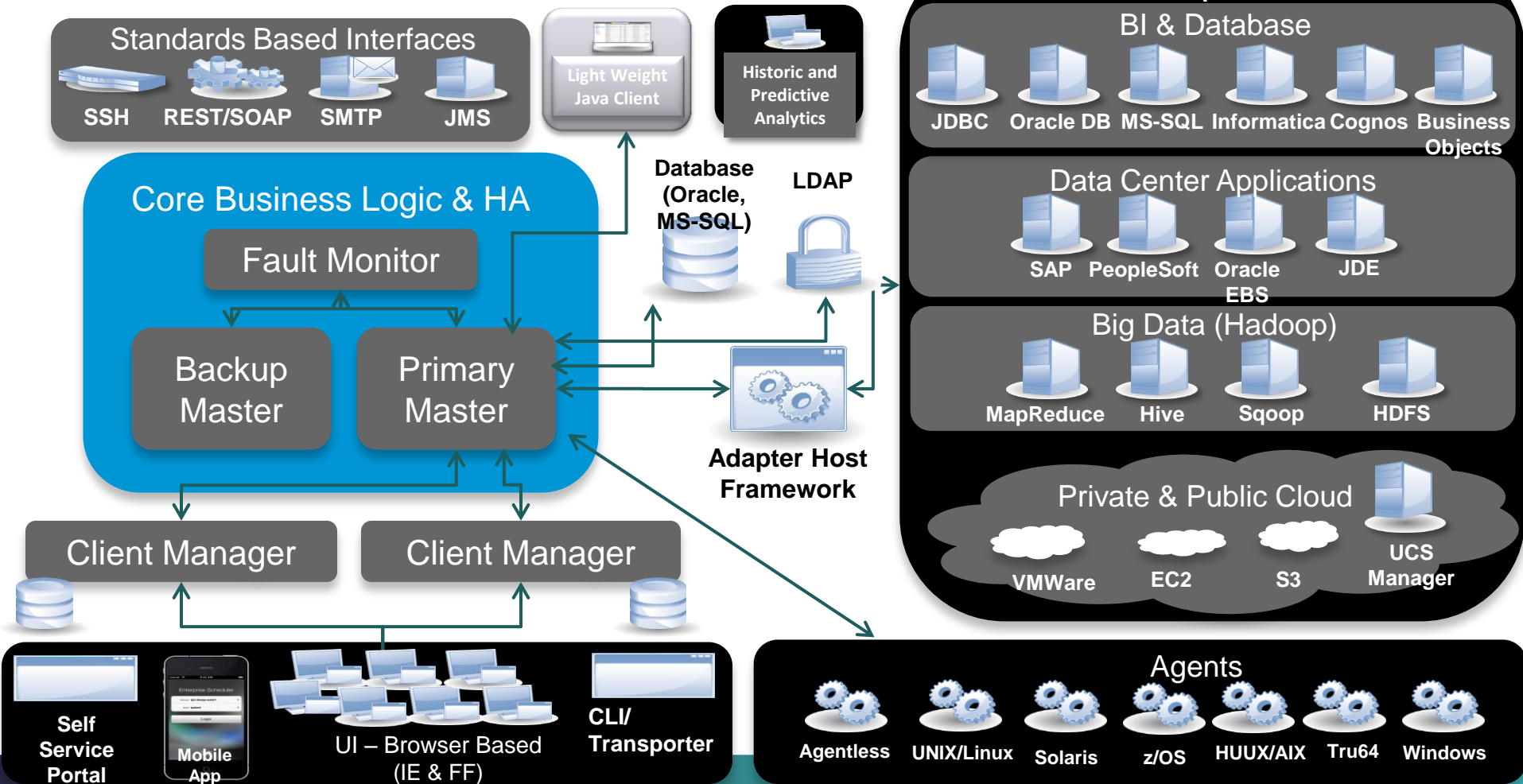
TES 6.1



TES 6.2



Cisco Tidal Enterprise Scheduler 6.2



Planning Your TES 6.2 Implementation

TES 6.2 Software Specifications

- All of the TES components require Java 1.7 and above
- Supported OS for Master, Fault Monitor and Client Manager

HPUX	11.23, 11.31
Solaris	9, 10
AIX	6.1, 7 and 7.1
Windows	Server 2008 (Standard + Enterprise), Server 2012 (Standard) Server 2012 R2 (Standard)
RHEL	Redhat Enterprise Server v5, v6 (64 bit)
Cent OS	v5, v6
SUSE	SUSE Enterprise Server v11, v11.3
Oracle Enterprise Linux	v5, v6
VMWare	ESX/ESXi 4.0, 5.0, 5.1

- Supported Platform for Transporter (64 bit) - Windows 7, Windows 2008
- Supported Browsers – IE 10, FF 24 (recommended FF 20)

TES 6.2 Hardware Recommendations

Configuration Definition

	Jobs Definition	DB Size	Concurrent Users
Small Configuration	1 – 3000	< 4 GB	5 - 10
Medium Configuration	3,000 – 20,000	< 16 GB	10-20
Large Configuration	20,000 and less than 100 K	> 32GB	50-100

Master Configuration

Master Configuration	Memory	CPU Cores
Small	8GB	4
Medium	16GB	8
Large	24GB	16

Note: For each adapter instance use the following guidelines for RAM allocation:

- 1 GB of extra RAM for Small and Medium configurations
- 2GB of extra RAM for Large configuration

Master and Client Manager DB

Minimum size required by Master and Client Manager

Databases:

- MS SQL Server: 128 MB Data, 32 MB Log
- Oracle: 400 MB Data, 300 MB Index, 200 MB Temp

As the number of jobs or logs increases, DBA should tune the DB accordingly

Client Manager Configuration

Client Manager Configuration	Memory	CPU Cores
Small	12 GB	8
Medium	24 GB	16
Large	32 GB	24

TES 6.2 Hardware Recommendations Contd.,

Java Client Configuration

Java Client	Memory	CPU Cores
Small	4 GB	4
Medium	8 GB	4
Large	12 GB	8

Transporter Configuration

Transporter	Memory	CPU Cores
Small	8GB	4
Medium	12GB	8
Large	16GB	12

NOTE: All Memory & Disk requirements are for TES related components and doesn't include any OS requirements

Upgrade/Migration Scenarios

Supported versions for Upgrade & Migration

- 5.3.1 to TES 6.2 (In line Upgrade if h/w specs are met / Migration)
- 6.0.3 to 6.2 (In line Upgrade / Migration)
- 6.1 to 6.2 (In line Upgrade / Migration)

High level check list

- ✓ Run a readiness assessment to check if your environment meets the recommended hardware and software configurations
- ✓ Make backups of all systems/databases/etc
- ✓ Engage TAC/Services to learn of any hotfixes/patches of interest
- ✓ Do early testing on a non-production environment first
- ✓ Upgrade all TES agents – must be TES 3 agent for TES 6x
- ✓ Engage directory services team for AD/LDAP information
- ✓ Limit your history retention prior to the upgrade – best practice is 30 days of historical information online

Use Cisco Services or one of our recommended 3rd party partners for 5.3.x to TES 6.2 upgrade/migration

Cisco Advanced Services for Tidal Enterprise Scheduler

TES Service Offerings

Pre-Implementation Planning & Implementations

- Traditional Implementation Services
- Conversions and Migrations
- Customized Integrations and Solutions
- Business Process Analysis, Design & Re-engineer

Comprehensive Upgrade Services

- Enterprise Scheduler
- Solution Connectors to Adapters

TES Service Offerings

Remote Services and Support

- Production Go live & Post Production Support

Environmental Assessments

- Software and Hardware Requirements
- Evaluate Current TES Infrastructure
- Complete Healthcheck
- Comprehensive Report

Product Education & Training

- Formal Hands-on Product Training
- Intermediate, Advanced, Administrator, Operator, Transporter, Upgrades
- Customized Training & Workshops

Services Scoping & Delivery:
Luis Bravo - Engagement Manager
lubravo@cisco.com
Patti Stephenson - AS Director
pattstep@cisco.com

Operational Best Practices and Recommendations

Item	Area	Affected components	Remarks
Sizing various components correctly	Capacity	All	Refer to performance tuning guide. Load test the same.
Having Multiple CMs Load balanced	Load Distribution	Master, CMs	Having multiple CMs help to distribute load and avoid downtimes during maintenance
Upgrading one CM at a time & off-peak time maintenance	Maintenance	CMs	See above note
Correct parameter tuning	JVM, Threads	All	Refer to Perf Tuning Guide
Having higher auto-refresh interval e.g., 30 or 60 seconds for web clients	Perf Tuning	CM & Web Client	Default is 30 seconds in 6.2 (can be changed by using Web client → View → Configure Auto-refresh Interval)
History Purge	Maintenance	Master & CMs	Keep at the most 30 days of data online.
Database Index usage review (for CM only and share the indexes with Cisco)	Maintenance	Master & CMs	DBA needs to monitor to make sure that there are no table scans (except 1-2 known)
Configure timeouts properly to avoid RPC errors	System/RPC errors	Web clients	Application note published.

Item	Area	Affected components	Remarks
Initial roll out of Java Client & CM Sync	Tapering/Perf Tuning	Master, CM and Java Client	Make sure full CM sync is completed before Java Clients connect to Master.
Run Master, CM and TP on different servers (Mandatory for Production operations)	Performance	All	Master and CM databases should also be on separate servers for production systems.
Job Hierarchies (limit to 4 or less if possible)	Performance	All	<ol style="list-style-type: none"> 1. Avoid too-deep tree structure 2. Avoid too many nested dependencies
Log file counts	MaxLogFiles=1000	dsp.props clientmgr.props service.props for each adapter, transporter.props	In order to help troubleshoot, increase # of log files retained to say 30 days worth (e.g., # of logs per day * 30). Review space requirements, per your log level.
Software patching (upgrade to each monthly or regular rollups) – including agents	Maintenance/ performance	All	Keep your system patched to the current version as improvements are continually being made to the product.
Admin & End User Training	Continued learning	All	Keep key resources working on TES trained well on product and these best practices

References

- Cisco TES Home Page
www.cisco.com/go/workloadautomation
- From TES Home Page you can
 - Download Software
 - View/Download Data Sheet and Whitepapers
 - View/Download Installation and Configuration Guides
 - View/Download User Guides
- Monthly Roll ups of the software are posted in Cisco.com
<http://software.cisco.com/download/type.html?mdfid=283340354&flowid=16741>
- Subscribe to our Support Community to participate in TES discussions
<https://supportforums.cisco.com/community/5711/tidal-enterprise-scheduler>

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 Tidal Enterprise Scheduler (TES) Hotfix Updates-6.1.0

Cisco Tidal Enterprise Scheduler Base Product

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- ▼ Latest
 - 5.3.1
 - 6.1.0
 - 6.0.3
- ▼ All Releases
 - ▶ 6.1
 - ▶ 6.0
 - ▶ 5.3

Release 6.1.0

File Information

TES 6.1.0 hotfix bundle release for April 2014
TES_610_HotfixBundle_03272014.zip

This hotfix build includes three packages(MapReduce,Hive and Sqoop)and L 03-FEB-2014
inux agent installer for DataMover to support Apache/Cloudera distributions.
TES_6.1.0.429_Apache1.1.2_CDH4_MapR3_02.03.2014.zip

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Set Cisco Notification Alert

Sets a notification alert for this release

To open Cisco Notification Alerts click on the My Cisco Tab and expand the Support Notifications section

Key Takeaways

- TES 5.3.1 EOL timelines
 - End of Engineering Maintenance: Sep 30, 2014
 - End of TAC Support: Jul 31, 2015
- TES 6.2 will be made generally available by May end
- Ensure proper hardware sizing for successful implementation
- Follow the best practices to ensure smooth operation
- Engage services for TES 5.3.1 to TES 6.2 migration

Thank you.

