

State of TN ABC**Master Script Upgrade
Release Notes****Document Control**

Date	Author	Version	Changes
9/11/2018	John Schomp	V1.0	Initial Version

State of TN Master Script Upgrade

Summary

Gray Quarter, Inc. has upgraded the agency scripts extracted from the TABC Production environment from the version 2.x format to the newest scripting version 3.0 format. The original scripts that were stored in standard choices have been migrated into JavaScript files, using the Accela best practice directory structure. These standard choices have been converted to a structure that mirrors the record type structure for the agency. This document describes the details of the conversion, as well as implementation steps.

Analysis

A review of the scripting shows that customary standards for scripting based on version 2.X have been used. "Variable branching" (using standard choices named specifically for the events and record types they are intended for) was used.

Several opportunities for code review and/or refactoring were identified. Please see the Recommendations section for details.

Master Script Usage

The following events are in use for the TABC Production agency, shown with associated master scripts. The "Action" column describes the changes that will be required when implementing the upgraded scripts. **Bold type** indicates that scripting is associated to the event. If not scripting is not associated, we recommend disabling the event to speed up performance.

Event	Script	Action
ApplicationDetailNewBefore		No script, remove event
DocumentUploadAfter		No script, remove event
ExaminationBatchUpdateByCSVAfter		No script, remove event
AdditionalInfoUpdateAfter	AdditionalInfoUpdateAfter (Master Script - 8.0.1.0.0)	Unused, remove event
AdditionalInfoUpdateBefore	AdditionalInfoUpdateBefore (Master Script - 8.0.1.0.0)	Unused, remove event
ApplicationConditionAddAfter	ApplicationConditionAddAfter (Master Script - 8.0.1.0.0)	Unused, remove event
ApplicationConditionDeleteBefore	ApplicationConditionDeleteBefore (Master Script - 8.0.1.0.0)	Unused, remove event
ApplicationConditionUpdateAfter	ApplicationConditionUpdateAfter (Master Script - 8.0.1.0.0)	Unused, remove event
ApplicationConditionUpdateBefore	ApplicationConditionUpdateBefore (Master Script - 8.0.1.0.0)	Unused, remove event
ApplicationDetailUpdateAfter	UniversalMasterScript (Master Script - 8.0.1.0.0)	Upgrade to 9.2 Version
ApplicationSpecificInfoUpdateAfter	ApplicationSpecificInfoUpdateAfter (Master Script - 8.0.1.0.0)	Upgrade to 9.2 Version
ApplicationSpecificInfoUpdateBefore	ApplicationSpecificInfoUpdateBefore (Master Script - 8.0.1.0.0)	Unused, remove event
ApplicationStatusUpdateAfter	ApplicationStatusUpdateAfter (Master Script - 8.0.1.0.0)	Upgrade to 9.2 Version
ApplicationStatusUpdateBefore	ApplicationStatusUpdateBefore (Master Script - 8.0.1.0.0)	Unused, remove event
ApplicationSubmitAfter	ApplicationSubmitAfter (Master Script - 8.0.1.0.0)	Upgrade to 9.2 Version
ApplicationSubmitBefore	ApplicationSubmitBefore (Master Script - 8.0.1.0.0)	Upgrade to 9.2 Version
ContactAddAfter	ContactAddAfter (Master Script - 8.0.1.0.0)	Upgrade to 9.2 Version
ContactAddBefore	ContactAddBefore (Master Script - 8.0.1.0.0)	Unused, remove event
ContactEditAfter	ContactEditAfter (Master Script - 8.0.1.0.0)	Unused, remove event
ContactEditBefore	ContactEditBefore (Master Script - 8.0.1.0.0)	Unused, remove event
ContactRemoveAfter	ContactRemoveAfter (Master Script - 8.0.1.0.0)	Unused, remove event
ContactRemoveBefore	ContactRemoveBefore (Master Script - 8.0.1.0.0)	Unused, remove event
ConvertToRealCAPAfter	ConvertToRealCapAfter (Master Script - 8.0.1.0.0)	Upgrade to 9.2 Version
DocumentUpdateAfter	DocumentUpdateAfter (Master Script - 8.0.1.0.0)	Upgrade to 9.2 Version
DocumentUploadBefore	DocumentUploadBefore (Master Script - 8.0.1.0.0)	Unused, remove event

FeeAssessAfter	FeeAssessAfter (Master Script - 8.0.1.0.0)	Upgrade to 9.2 Version
FeeAssessBefore	FeeAssessBefore (Master Script - 8.0.1.0.0)	Unused, remove event
InspectionMultipleScheduleAfter	InspectionMultipleScheduleAfter (Master Script - 8.0.1.0.0)	Unused, remove event
InspectionResultModifyAfter	InspectionResultModifyAfter (Master Script - 8.0.1.0.0)	Unused, remove event
InspectionResultModifyBefore	InspectionResultModifyBefore (Master Script - 8.0.1.0.0)	Unused, remove event
InspectionResultSubmitAfter	InspectionResultSubmitAfter (Master Script - 8.0.1.0.0)	Upgrade to 9.2 Version
InspectionScheduleAfter	InspectionScheduleAfter (Master Script - 8.0.1.0.0)	Upgrade to 9.2 Version
InspectionScheduleBefore	InspectionScheduleBefore (Master Script - 8.0.1.0.0)	Upgrade to 9.2 Version
InvoiceFeeAfter	InvoiceFeeAfter (Master Script - 8.0.1.0.0)	Unused, remove event
LicProfUpdateAfter	LicProfUpdateAfter (Master Script - 8.0.1.0.0)	Unused, remove event
LicProfUpdateBefore	LicProfUpdateBefore (Master Script - 8.0.1.0.0)	Unused, remove event
ParcelAddAfter	ParcelAddAfter (Master Script - 8.0.1.0.0)	Unused, remove event
ParcelAddBefore	ParcelAddBefore (Master Script - 8.0.1.0.0)	Unused, remove event
ParcelUpdateAfter	ParcelUpdateAfter (Master Script - 8.0.1.0.0)	Unused, remove event
PaymentProcessingAfter	PaymentProcessingAfter (Master Script - 8.0.1.0.0)	Unused, remove event
PaymentProcessingBefore	PaymentProcessingBefore (Master Script - 8.0.1.0.0)	Unused, remove event
PaymentReceiveAfter	PaymentReceiveAfter (Master Script - 8.0.1.0.0)	Upgrade to 9.2 Version
PaymentReceiveBefore	PaymentReceiveBefore (Master Script - 8.0.1.0.0)	Unused, remove event
RenewalInfoUpdateAfter	RenewalInfoUpdateAfter (Master Script - 8.0.1.0.0)	Unused, remove event
TimeAccountingAddAfter	TimeAccountingAddAfter (Master Script - 8.0.1.0.0)	Unused, remove event
TimeAccountingUpdateAfter	TimeAccountingUpdateAfter (Master Script - 8.0.1.0.0)	Unused, remove event
V360InspectionResultSubmitAfter	V360InspectionResultSubmitAfter (Master Script - 8.0.1.0.0)	Upgrade to 9.2 Version
V360InspectionResultSubmitBefore	V360InspectionResultSubmitBefore (Master Script - 8.0.1.0.0)	Upgrade to 9.2 Version
V360ParcelAddAfter	V360ParcelAddAfter (Master Script - 8.0.1.0.0)	Unused, remove event
VoidPaymentAfter	VoidPaymentAfter (Master Script - 8.0.1.0.0)	Unused, remove event
VoidPaymentBefore	VoidPaymentBefore (Master Script - 8.0.1.0.0)	Unused, remove event
WorkflowTaskUpdateAfter	WorkflowTaskUpdateAfter (Master Script - 8.0.1.0.0)	Upgrade to 9.2 Version
WorkflowTaskUpdateBefore	WorkflowTaskUpdateBefore (Master Script - 8.0.1.0.0)	Upgrade to 9.2 Version

Edits to Standard Master Scripts

There were no edits to standard master scripts.

Custom functions that conflict with Master Script distribution

Custom functions were found that matched standard functions that are part of the Master Script 3.0 distribution. The code was compared, and the following recommendations were made.

Function	Comments	Disposition of custom function
addParameter	Matches the 3.0 distribution	Remove
createLicense	Many custom features	Keep

createRefContactsFromCapContactsAndLink	Matches the 3.0 distribution	Remove
editCapConditionStatus	The 3.0 version has additional functions	Remove
getContactParams4Notification	Matches the 3.0 distribution	Remove
getParentCapID4Renewal	Matches the 3.0 distribution	Remove
getParentLicenseCapID	Matches the 3.0 distribution	Remove
handleError	Matches the 3.0 distribution	Remove
runReportAttach	Matches the 3.0 distribution	Remove
setLicExpirationDate	Many custom features	Keep

Standard Choice Conversion Details

- Approximately 545 Standard Choices containing scripts have been converted to approximately 69 script files. 4 new functions were created. In general, any standard choice code that was branched to more than once was converted to a separate custom function. The following functions were created:

Standard Choice	FunctionName
TABC_Create_Individual_Licenses_5	createIndividualLicenses5
WTUA;TNABC!~!Application!~ Update Status	applicationUpdateStatus
TABC_Create_Individual_Licenses_1	createIndividualLicenses1
TABC_Create_Target_Records_0	createTargetRecords0

- All converted scripts have been tested for proper JavaScript syntax.
- To assist with testing, the original “Branch” standard choice names have been added as comments to the converted scripts. Once testing is complete these comments won’t be needed. For example:

```
//replaced branch(WTUA:TNABC/*Application/* Update Status)
applicationUpdateStatus();
if (isTaskActive('Inspection'))
    if (taskStatus('Inspection').equals('Not Applicable'))
        deactivateTask('Inspection');
```

- The conversion algorithm may have created some instances where double sets of braces {{ ... }} denote a code block. These can be removed if desired, but they have no impact on the script execution.
- In accordance with best practices, all references to *showDebug* within business scripts have been removed to simplify script debugging. Accela recommends setting this in one place, preferably using INCLUDES_CUSTOM_GLOBALS, which was designed for this purpose.

- Individual standard choices that were disabled are included but commented out inline. Any branch calls in this disabled code were migrated as *“br_nch”* as the branch function is no longer supported in 3.0. If this code needs to be enabled, these branch calls would have to be refactored. For example:

```
// logDebug('Parent Cap2: ' + itemCap );
// saveCap = capId;
// capId = itemCap;
// br_nch('TABC_Create_Individual_Licenses_5');
// capId = saveCap;
// aa.runScriptInNewTransaction('PaymentReceiveAfter4Renew');
// closeTask('Application Status','Issued','Updated via EMSE','');
```

- Standard choice branches that were not referenced by any script were converted into JavaScript and placed into the Scripts\Unused Branches folder. This includes any code that was referenced by disabled standard choices. These should be reviewed.
- All script files have been formatted to JavaScript standards for indentation.
- The caret (^) is no longer valid for creating conditional logic. Standard JavaScript should be used instead (i.e., if, else, else if, switch)
- All references to Custom Fields, Task Specific Info, and Parcel Attributes that used braces (e.g., *{ASI Field}*) have been changed to use the AInfo global Array (e.g., *AInfo['ASI Field']*). Braces are now exclusively used to designate blocks of code.
- All references to the *“branch”* and *“endbranch”* functions have been removed. These are deprecated in Master Scripts 3.0.

Code Analysis and Recommendations

Some recommendations on the existing code are as follows:

- The *“updateTask”*, *“closeTask”*, and *“branchTask”* functions are used throughout. The newer *“resultTask”* standard function will perform the same action but follow the workflow configuration of the selected status.
- Variables that are declared within business scripts should always be prefaced by the *“var”* keyword, so that they become local variables. Without the *“var”* keyword, the variable is global in scope.
- Review/Edit all TODO sections as shown below:

```

Scripts\Event\ASA;TNABC!\!~.js (1)
1
2 //TODO std choice does not exist
3 //branch('EMSE:SetContactRelationshipToContactType');
4
Scripts\Event\CTRCA;TNABC!\!~.js (1)
1 // TODO: branch does not exist
2 // branch('EMSE:SetContactRelationshipToContactType');
3
4 var appCounty = getCountyValue(capId);
Scripts\Event\WTUA;TNABC\INA\APPLICATION\INA.js (1)
Scripts\Event\WTUA;TNABC\INA\RENEWAL\INA.js (1)
Scripts\Event\WTUA;TNABC!\!RENEWAL!\~.js (1)
22 // aa.runScriptInNewTransaction('WorkflowTaskUpdateAfter4Renew');
23
24 // TODO: conversion issue, criteria is disabled but continuation line is enabled. commenting out for now.
25
26 /*
27

```

Script Repository

A temporary DEV repository was created for this conversion

Repository Protocol	Git
Repository URL	https://github.com/grayquarter/StateOfTn.git

To connect to the repository, the “EMSEToolConfig” standard choice should be configured as per the Accela documentation. The “EMSETool” portlet should be enabled for the appropriate users/groups.

Standard Choices

The following Standard Choices must be configured. These are documented in the Master Script distribution in the documentation folder. The “Master Script Distribution_Std_Choices.zip” data manager package can be used to load these values.

- EMSE_EXECUTE_OPTIONS determines if Scripts or Standard Choices, or both should be executed by the master script. This should be set to select Scripts only.

Standard Choices Item Name: EMSE_EXECUTE_OPTIONS

Description:
(250 char max)

Status: ☒ Enable ☐ Disable

Type: ☒ System Switch ☐ Shared drop-down ☐ EMSE ☐ Business Configuration

Standard Choices Value	Value Desc	Active
SCRIPT		<input checked="" type="checkbox"/>
STD_CHOICE		<input type="checkbox"/>

- EMSE_VARIABLE_BRANCH_PREFIX determines the naming convention used to determine if a script is associated to a particular event. **Bold** type indicates that scripting is associated to this event.

Event Name	Variable Branch Prefix
AdditionalInfoUpdateAfter	AIUA
AdditionalInfoUpdateBefore	AIUB
ApplicationConditionAddAfter	ACAA
ApplicationConditionDeleteBefore	ACDB
ApplicationConditionUpdateAfter	ACUA
ApplicationConditionUpdateBefore	ACUB
ApplicationDetailUpdateAfter	ADUA
ApplicationSubmitAfter	ASA
ApplicationSubmitBefore	ASB
ApplicationSpecificInfoUpdateAfter	ASIUA
ApplicationSpecificInfoUpdateBefore	ASIUB
ApplicationStatusUpdateAfter	ASUA
ApplicationStatusUpdateBefore	ASUB
ContactAddAfter	CAA
ContactAddBefore	CAB
ContactEditAfter	CEA
ContactEditBefore	CEB
ContactRemoveAfter	CRA
ContactRemoveBefore	CRB
ConvertToRealCapAfter	CTRCA
DocumentReviewUpdateAfter	DRUA
DocumentUpdateAfter	DUA
DocumentUploadBefore	DUB
DocumentUploadAfter	DUPA
FeeAssessAfter	FAA
FeeAssessBefore	FAB
InspectionCancelAfter	ICA
InvoiceFeeAfter	IFA
InspectionMultipleScheduleAfter	ISA
InspectionResultModifyAfter	IRMA
InspectionResultModifyBefore	IRMB
InspectionResultSubmitAfter	IRSA
InspectionScheduleAfter	ISA
InspectionScheduleBefore	ISB
LicProfAddAfter	LPAA
LicProfLookupSubmitAfter	LPLSA
LicProfUpdateAfter	LPUA
LicProfUpdateBefore	LPUB
ParcelAddAfter	PAA

ParcelAddBefore	PAB
ParcelUpdateAfter	PUA
PaymentProcessingAfter	PPA
PaymentProcessingBefore	PPB
PaymentReceiveAfter	PRA
PaymentReceiveBefore	PRB
RelatedCapUpdateAfter	RCUA
RenewalInfoUpdateAfter	RIUA
TimeAccountingAddAfter	TAAA
TimeAccountingUpdateAfter	TAUA
V360InspectionResultSubmitAfter	IRSA
V360InspectionResultSubmitBefore	IRSB
V360ParcelAddAfter	PAA
VoidPaymentAfter	VPA
VoidPaymentBefore	VPB
WorkflowTaskUpdateAfter	WTUA
WorkflowTaskUpdateBefore	WTUB

- MASTER_SCRIPT_DEFAULT_VERSION (Recommendation is to set to 9.2)

Deployment to Higher Environments

After the initial migration, the deployment to a higher environment (e.g., DEV -> TEST, TEST-> PROD) can be achieved by the following steps:

Step	Description	Est. Time
1	Create rollback package In TARGET environment create a Data Manager export package that contains: <ul style="list-style-type: none">all Event to Script associations (AA Configuration, Event Manager, Events, select all)Master Includes (AA Configuration, Event Manager, Master Scripts, INCLUDES_CUSTOM)Includes (AA Configuration, Event Manager, Master Scripts, INCLUDES*) Save and run the job, saving the output in a dedicated folder. This package will only be used if a roll back is required.	5 Minutes
2	Create master script package In SOURCE environment create a Data Manager export package that contains: <ul style="list-style-type: none">all Event to Script associations (AA Configuration, Event Manager, Events, select all)Includes (AA Configuration, Event Manager, Master Scripts, INCLUDES*)EMSE Standard Choices (AA Configuration, Standard Choices: EMSE_EXECUTE_OPTIONS, EMSE_VARIABLE_BRANCH_PREFIX, EMSEToolConfig) Save and run the job, saving the output in a dedicated folder.	5 Minutes
3	Deploy master script package In TARGET environment create a Data Manager import job that will import the entire package in step 2.	5 Minutes
4	Confirm EMSEToolConfig In TARGET environment update the EMSEToolConfig standard choice with credentials and URL to access the environment repository.	2 Minutes
5	Deploy Scripts In TARGET environment deploy all scripts using the EMSE Tool.	5 Minutes
6	Update INCLUDES_CUSTOM_GLOBALS In TARGET environment update the INCLUDES_CUSTOM_GLOBALS script as needed for this environment (debugging options, environment variable, etc.)	2 Minutes
7	Smoke Test In TARGET environment perform smoke testing to ensure proper script execution.	10 Minutes