



Master Script Upgrade Release Notes

Document Control

Date	Author	Version	Changes
8/20/18	John Schomp	V1.0	Initial Version

Charlotte County Master Script Upgrade

Summary

Gray Quarter, Inc. has upgraded the agency scripts extracted from the CHESAPEAKE Support 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 CHESAPEAKE Production agency, shown with associated master scripts. The “Action” column describes the changes that will be required when implementing the upgraded scripts.

Event	Script	Type	Action
ApplicationConditionAddAfter	ApplicationConditionAddAfter	MASTER SCRIPT - 8.0.0.0.0	Replace with 8.0.1.0.0 version
ApplicationDetailUpdateAfter	UniversalMasterScript	MASTER SCRIPT - 8.0.1.0.0	n/a
ApplicationSpecificInfoUpdateAfter	ApplicationSpecificInfoUpdateAfter	MASTER SCRIPT - 8.0.0.0.0	Replace with 8.0.1.0.0 version
ApplicationSpecificInfoUpdateBefore	ApplicationSpecificInfoUpdateBefore	MASTER SCRIPT - 8.0.0.0.0	Replace with 8.0.1.0.0 version
ApplicationStatusUpdateAfter	ApplicationStatusUpdateAfter	MASTER SCRIPT - 8.0.0.0.0	Replace with 8.0.1.0.0 version
ApplicationSubmitAfter	ApplicationSubmitAfter	MASTER SCRIPT - 8.0.0.0.0	Replace with 8.0.1.0.0 version
ApplicationSubmitBefore	ApplicationSubmitBefore	MASTER SCRIPT - 8.0.0.0.0	Replace with 8.0.1.0.0 version
ContactAddAfter	ContactAddAfter	MASTER SCRIPT - 8.0.0.0.0	Replace with 8.0.1.0.0 version
ContactEditAfter	ContactEditAfter	MASTER SCRIPT - 8.0.0.0.0	Replace with 8.0.1.0.0 version
ConvertToRealCAPAfter	ConvertToRealCapAfter	MASTER SCRIPT - 8.0.0.0.0	Replace with 8.0.1.0.0 version
DocumentReviewUpdateAfter	DocumentReviewUpdateAfterV2.0	null	Replace with 8.0.1.0.0 version
DocumentUploadAfter	DocumentUploadAfter	MASTER SCRIPT - 8.0.0.0.0	Replace with 8.0.1.0.0 version
FeeAssessAfter	FeeAssessAfter	MASTER SCRIPT - 8.0.0.0.0	Replace with 8.0.1.0.0 version
FeeAssessBefore	FeeAssessBefore	MASTER SCRIPT - 8.0.0.0.0	Replace with 8.0.1.0.0 version
FeeEstimateAfter4ACA	null	MASTER SCRIPT - 7.2.0	Replace with 8.0.1.0.0 version
InspectionCancelAfter	MULTIINSPECTIONCANCELAFTER	null	Replace with 8.0.1.0.0 version of Universal Master Script.
InspectionMultipleScheduleAfter	InspectionMultipleScheduleAfter	MASTER SCRIPT - 8.0.0.0.0	Replace with 8.0.1.0.0 version
InspectionMultipleScheduleBefore	InspectionMultipleScheduleBefore	MASTER SCRIPT - 8.0.0.0.0	Replace with 8.0.1.0.0 version
InspectionResultModifyAfter	InspectionResultModifyAfter	MASTER SCRIPT - 8.0.0.0.0	Replace with 8.0.1.0.0 version
InspectionResultModifyBefore	InspectionResultModifyBefore	MASTER SCRIPT - 8.0.0.0.0	Replace with 8.0.1.0.0 version
InspectionResultSubmitAfter	InspectionResultSubmitAfter	MASTER SCRIPT - 8.0.0.0.0	Replace with 8.0.1.0.0 version
InspectionResultSubmitBefore	InspectionResultSubmitBefore	MASTER SCRIPT - 8.0.0.0.0	Replace with 8.0.1.0.0 version
InspectionScheduleAfter	InspectionScheduleAfter	MASTER SCRIPT - 8.0.0.0.0	Replace with 8.0.1.0.0 version

InspectionScheduleBefore	InspectionScheduleBefore	MASTER SCRIPT - 8.0.0.0.0	Replace with 8.0.1.0.0 version
InvoiceFeeAfter	InvoiceFeeAfter	MASTER SCRIPT - 8.0.0.0.0	Replace with 8.0.1.0.0 version
LicProfAddAfter	UniversalMasterScript	MASTER SCRIPT - 8.0.0.0.0	Replace with 8.0.1.0.0 version
LicProfLookUpSubmitAfter	LicProfLookupSubmitAfter	MASTER SCRIPT - 8.0.0.0.0	Replace with 8.0.1.0.0 version
LicProfUpdateAfter	UniversalMasterScript	MASTER SCRIPT - 8.0.0.0.0	Replace with 8.0.1.0.0 version
PaymentProcessingAfter	PaymentProcessingAfter	MASTER SCRIPT - 8.0.0.0.0	Replace with 8.0.1.0.0 version
PaymentProcessingBefore	PaymentProcessingBefore	MASTER SCRIPT - 8.0.0.0.0	Replace with 8.0.1.0.0 version
PaymentReceiveAfter	PaymentReceiveAfter	MASTER SCRIPT - 8.0.0.0.0	Replace with 8.0.1.0.0 version
PaymentReceiveBefore	PaymentReceiveBefore	MASTER SCRIPT - 8.0.0.0.0	Replace with 8.0.1.0.0 version
RegistrationSubmitAfter	null	null	Unused, delete event
RegistrationSubmitBefore	null	null	Unused, delete event
RelatedCapUpdateAfter	RELATEDCAPUPDATEAFTERV2.0	null	Replace with 8.0.1.0.0 version of Universal Master Script.
ReportRunAfterInACA	REPORTRUNAFTERINACA	null	Not a master script, leave in place
ReportServiceRunAfter	null	null	Unused, delete event
V360InspectionResultSubmitAfter	V360InspectionResultSubmitAfter	MASTER SCRIPT - 8.0.0.0.0	Replace with 8.0.1.0.0 version
V360InspectionResultSubmitBefore	InspectionResultSubmitBefore	MASTER SCRIPT - 9.3.0	Replace with 8.0.1.0.0 version
VoidFeeAfter	VoidFeeAfter	null	Replace with 8.0.1.0.0 version
VoidPaymentAfter	VoidPaymentAfter	MASTER SCRIPT - 8.0.0.0.0	Replace with 8.0.1.0.0 version
VoidPaymentBefore	VoidPaymentBefore	MASTER SCRIPT - 8.0.0.0.0	Replace with 8.0.1.0.0 version
WorkflowTaskUpdateAfter	WorkflowTaskUpdateAfter	MASTER SCRIPT - 8.0.0.0.0	Replace with 8.0.1.0.0 version
WorkflowTaskUpdateBefore	WorkflowTaskUpdateBefore	MASTER SCRIPT - 8.0.0.0.0	Replace with 8.0.1.0.0 version

Edits to Standard Master Scripts

Master Script	Edit	Action
DocumentReviewUpdateAfter	Embedded updatePlanReviewWorkflow function	Identical to distribution function, no action needed as we will replace this master script with std version

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	Description	Disposition of custom function
addParameter	Matches the 3.0 distribution	To be Removed
contactObj	3.0 distribution has more functionality	To be Removed
convertContactAddressModelArr	Matches the 3.0 distribution	To be Removed
createRefContactsFromCapContactsAndLink	Matches the 3.0 distribution	To be Removed

createRefLicProf	Matches the 3.0 distribution	To be Removed
doesASIFieldExistOnRecord	Matches the 3.0 distribution	To be Removed
generateReport4Workflow	Matches the 3.0 distribution	To be Removed
genericTemplateObject	Matches the 3.0 distribution	To be Removed
getACADocDownloadParam4Notification	Matches the 3.0 distribution	To be Removed
getACADocumentDownloadUrl	Matches the 3.0 distribution	To be Removed
getACARecordParam4Notification	Matches the 3.0 distribution	To be Removed
getACAUrL	Matches the 3.0 distribution	To be Removed
getAppConditions	Matches the 3.0 distribution	To be Removed
getCapId	Matches the 3.0 distribution	To be Removed
getChildren	Matches the 3.0 distribution	To be Removed
getContactObj	Matches the 3.0 distribution	To be Removed
getContactObjsByCap	Matches the 3.0 distribution	To be Removed
getContactObjs	Matches the 3.0 distribution	To be Removed
getContactObjsBySeqNbr	Matches the 3.0 distribution	To be Removed
getContactParams4Notification	Has a logic error, "param" is not defined.	To be Removed
getDocOperation	Matches the 3.0 distribution	To be Removed
getDocumentList	Matches the 3.0 distribution	To be Removed
getInspectionResultParams4Notification	Matches the 3.0 distribution	To be Removed
getInspectionScheduleParams4Notification	Matches the 3.0 distribution	To be Removed
getPrimaryAddressLineParam4Notification	Matches the 3.0 distribution	To be Removed
getPrimaryOwnerParams4Notification	Matches the 3.0 distribution	To be Removed
getURLToNewRecord	Matches the 3.0 distribution	To be Removed
getUserEmail	Matches the 3.0 distribution	To be Removed
getWorkflowParams4Notification	Matches the 3.0 distribution	To be Removed
handleError	Matches the 3.0 distribution	To be Removed
isEmpty	Matches the 3.0 distribution	To be Removed
licenseProfObject	Additional functionality	To be Removed
resultWorkflowTask	Matches the 3.0 distribution	To be Removed
runReport4Email	Matches the 3.0 distribution	To be Removed
runReport4EmailOrPrint	Matches the 3.0 distribution	To be Removed
sendNotification	Matches the 3.0 distribution	To be Removed

The INCLUDES_CUSTOM Script is deprecated

The old INCLUDES_CUSTOM script has the following functions defined, but they are no longer needed. This script should be deleted to avoid any future confusion.

- preventPermitIssuance is defined in the "INCLUDES_CUSTOM" script, but the only reference in business scripts is disabled.
- getContactObjs is identical to the distribution version.

Standard Choice Conversion Details

- Approximately 2129 Standard Choices containing scripts have been converted to approximately 374 script files. 10 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
EMSE;GlobalFlags	globalFlags
EMSE;SetContactRelationshipToContactType	setContactRelationshipToContactType
EMSE;LicProfLookup	licProfLookup
EMSE;BLD_ProffersInspectionCheck	proffersInspectionCheck
EMSE;ComplaintDuplicateCheck	complaintDuplicateCheck
EMSE;ServiceRequestDuplicateCheck	serviceRequestDuplicateCheck
EMSE;ZON_ProcessCPParents	zonProcessCPParents
LIC Establish Links to Reference Contacts	establishLinksToReferenceContacts
LIC Issue Business License	issueBusinessLicense
ENF CREATE CHILD CASES	enfCreateChildCases

- 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:

```

7
8 //start replaced branch: GIS_PROXIMITY_ALERTS_BUILDING
9 = {
10     if (proximity('CHESAPEAKE', 'Flood Zones', 0, 'feet')) {
11         showMessage = true;
12         comment('<B><Font Color=RED>Please be advised, this pro
13     }
14
15 }
16 //end replaced branch: GIS_PROXIMITY_ALERTS_BUILDING;
17

```

- 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:

```

8  // DISABLED: PRA:Utilities/Connection Fees/NA/NA:02 - script 160
9  // if (publicUser && !isEmpty(bldArray)) {
10 //   var saveId = capId;
11 //   capId = getParent();
12 //   if(capId != false) br_nch('PRA:Building/*/*/*');
13 //   capId = saveId;
14 // }

```

- 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 *Alnfo* global Array (e.g., *Alnfo['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 *email* standard function is used throughout the scripts. The Communication Manager functions could be used to send emails using templates, with the added benefit of recording the email text in the Communications tab.
- 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.
- In some cases, *getAppSpecific* is being called for the current record, but this information is already retrieved and kept up to date by the master script environment. *Alnfo["Label"]* should be used instead so the script doesn't have to retrieve the value from the database twice.

- 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:

```

14      }
15  }
16  // TODO: syntax errors
17
18  if (inspType == 'Initial Investigation' && inspResult == 'In Violation') {
19      closeTask('Initial Investigation', 'In Violation', 'Updated by Inspection Result', 'Note');
20  }
21
22  Scripts\Event\WTUA;SERVICEREQUEST\~\~.js (2)
23
24  5
25  6 if (wfTask == 'SR Intake' && wfStatus == 'Duplicate') {
26      // TODO: there was a syntax error here (comma after the following line, updated)
27      closeTask('Final Notification', 'Notification Sent') //,
28      //start replaced branch: EMSE:ServiceRequestCloseCase
29      {
30
31  31 if (wfTask == 'SR Intake' && wfStatus == 'Referred') {
32      // TODO: syntax error, comma end of next line
33      closeTask('Final Notification', 'Notification Sent') //,
34      //start replaced branch: EMSE:ServiceRequestCloseCase
35      {

```

Script Repository

A temporary DEV repository was created for this conversion

Repository Protocol	Git
Repository URL	https://github.com/grayquarter/chesapeake.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.

- EMSE_VARIABLE_BRANCH_PREFIX determines the naming convention used to determine if a script is associated to a particular event.

Event Name	Variable Branch Prefix
ApplicationConditionAddAfter	ACAA
ApplicationDetailUpdateAfter	ADUA
ApplicationSubmitAfter	ASA
ApplicationSubmitBefore	ASB
ApplicationSpecificInfoUpdateAfter	ASIUA
ApplicationStatusUpdateAfter	ASUA
ContactAddAfter	CAA
ContactEditAfter	CEA
ConvertToRealCapAfter	CTRCA
DocumentReviewUpdateAfter	DRUA
DocumentUploadAfter	DUA
FeeAssessAfter	FAA
InspectionCancelAfter	ICA
InvoiceFeeAfter	IFA
InspectionResultModifyAfter	IRMA
InspectionResultSubmitAfter	IRSA
InspectionScheduleAfter	ISA
InspectionScheduleBefore	ISB
LicProfAddAfter	LPAA
LicProfLookupSubmitAfter	LPLSA
LicProfUpdateAfter	LPUA
PaymentProcessingAfter	PPA
PaymentProcessingBefore	PPB
PaymentReceiveAfter	PRA
PaymentReceiveBefore	PRB
RelatedCapUpdateAfter	RCUA
VoidPaymentAfter	VPA
WorkflowTaskUpdateAfter	WTUA
WorkflowTaskUpdateBefore	WTUB

- MASTER_SCRIPT_DEFAULT_VERSION (Recommendation is to set to 8.0.1.0.0)

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"/>

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