

TOMORROW starts here.



The Essential Quick Start Guide To Adopting Finesse As The Agent Desktop Interface

BRKCCT-2559

Paul Tindall

EMEAR Customer Collaboration Technical Consulting

@tindallpaul, ptindall@cisco.com



This session is a practical getting started guide to building the agent desktop the way you want it using Finesse. In 90 minutes you will gain the essential knowledge to start working hands-on with the Finesse desktop, configuring and customising it to meet business requirements.

All examples and desktop content presented here is authentic and has been created using a freshly installed working platform as the starting point.



Agenda

- Introduction
- Configuration
- Adding custom gadgets
- Embedding web content Workflow action event handling Call control and state change events Alternative approaches Getting started





Introduction

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What is Finesse?

- Desktop interface to CCE, PCCE and CCX
- · Has web-based architecture, meaning in simple terms ...
 - Standard web browser (Microsoft IE / Firefox) as the desktop user interface
 - Communicating over HTTP to web server(s)
 - Behind that ...
 - Application server components
 - Internal database of configuration information such as reason codes, phone books
 - Backend interface to CCX / CCE CTI servers
 - User connects via web URL, signs on, served with dynamically generated web content



Finesse Very High-Level



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At The User-Side

- Web page with modular structure, comprising ...
 - Call control / status component
 - Tabbed layout
 - Tabs optionally divided into columns
 - Columns populated by one or more Finesse modules (Gadgets)



Finesse Gadgets – What Actually Are They?

- Widget ...
 - Reusable chunk of standard web code HTML, JavaScript, CSS
 - Would execute and render in almost any web page
- Gadget ...
 - Logically the same
 - It's still a chunk of web code, but
 - Built to fit specific type of container
 - Wrapped in specific XML format
 - OpenSocial specification in the case of Finesse gadgets



Why is Finesse Important?

- Replaces CAD and CTIOS
 - Use for new deployments plus very many existing desktops to migrate
- Applies to both CCX and CCE
- No more thick client desktop applications
 No more install/upgrade pain across a huge number of desktops
- Opportunity to create customised business & user-role relevant desktop content
- Modular content
 - Build and test modules independently
 - Make available by adding to the content layout definition
 - Team specific layouts



CAD/CTI-OS End Of Life Summary

- EOL process started Jan 2015 for both CCE & CCX
- CCX
 - 10.6 will be the last release of CAD for CCX
- CCE
 - 11.0 will include CTI-OS and CAD for upgrades only
 - Finesse is the only desktop option for new CCE 11.0 customers
- CTI-OS will only continue to be supported for ICM



Getting Started – Approach

- Install/add Finesse server to existing CCE, enable as option within CCX
 - CCE: Additional settings for CTI Server and AW DB
 - CCX: explicitly enable using command line CLI utils uccx finesse activate
- Use it in parallel with other desktop flavours
 - CCX: 10.6 release planned to support concurrent use of CAD and Finesse (end Feb 2015)
- First steps
 - Use the out-the-box desktop
 - Configuration using Finesse Administration
 - Screen presentation / layouts
 - Reason codes
 - Phonebooks
 - Automated workflow triggers and actions
- Then build/add content modules Cisco-provided, third-party or custom built

Configuration

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Configuration

Finesse Administration

- CCX Integrated with App Admin
- Desktop gadget layout
- Call variable presentation
- Phonebooks
- Reason codes
 - Not-Ready
 - Sign-Out
 - Wrap-Up
- Event-driven workflows



• Finesse API includes configuration commands



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(Non-global codes are assigned to specific teams)

Reason Codes

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Team Specific vs. Global Settings

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Team Specific vs. Global Settings

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Killer	Joseph	001803			"Michael", "Miller", "09180398772", ""
Miller	Michael	091803			"Ann", "Cook", "04647615512", ""
New Edit Delete	Refresh		-	mport Export	"Carol", "Tyler", "04143940257","" "Joseph", "Cordwainer", "01794432540","" "Sarah", "Sawyer", "0778853412", "Fictilious person "Alice", "Fletcher", "07780921349","" "Janet", "Smith", "0780344556","" "John", "Potter", "08306024613",""
					"Jim","Carpenter","04203506413",""

for UK phone book"



	DUUNS			P	hone Book Limits	
Lulu Cisco Fines	se Administration			Siç (T	otal contacts planned to be ir	ncreased in 11.0)
Call Variables Layout Desktop	p Layout Phone Books Reasons	Team Resources Workflows			Global Phone Books	10
Manage Phone Books					Trans Plane Prote	50
					Team Phone Books	50
List of Phone Books					Total Configured Contacts	1500
Name		Assig	n Io			
Admin Department		All Use	rs			
Cisco Live		Teams				
Tech Teams		All Use	List of Contacts	for UK Office		
UK Office		All Use	rs Last Name	First Name	Number	Note
			Fletcher	Alice	07789021349	
			COOK	Ann Bob	04647615512	
			Tyler	Carol	04143940257	
			Smith	Janet	07883344556	
			Carpenter	Jim	04203506413	
		List of Co	Potter	John	08306024613	
			Miller	Joseph	01794432540	
Now Edit Delete	Pefreeh	Last Nam Smith	e Pakar	Dhil	00720022002	
New Edit Delete	Kerresh	Carpenter	New Contact			
		Potter				
List of Contacts for UK	(Office	Cordwainer	First	t Name Sarah	Number 077885342	212
Look Nome	First News	Baker	Last	t Name Sawyer	Note Fictitious p	person for UK phone book
Last Name	First Name	A Numbe Sawyer				
Fletcher	Alice	077890 Butcher	Save Cancel			
Cook	Ann	046476				
Slater	Bob	042838				
Tyler	Carol	041439 Import Co	ntacts			
Smith	Janet	078833 All ex	isting Contacts in the UK Office Phone Book will be replac	ed with the file you choose:		
Carpenter	Nim	042035 Con	acts File Browse UK-Contacts.csv			cay
Potter	loh	083060			"Bob", "Slater", "04283886140", ""	, Notes
Cordwainer	loseph	017044 OK Ca	incel		"Thomas", "Taylor", "01977167129", ""	
Cordwallier	Joseph	017944			"Michael", "Miller", "09759055082",	
Miller	Michael	091803			"Ann", "Cook", "04647615512", ""	
Ballar	Dkil	00730033003			"Carol", "Tyler", "04143940257",""	
New Edit Delete	Refresh		In	nport Export	"Joseph","Cordwainer","01794432540"," "Sarah","Sawyer","07788534212","Fictit "Alice","Fletcher","07789021349","" "Janet","Smith","07883344556","" "John","Potter","08306024613",""	' :ious person for UK phone book"
					"Jim","Carpenter","04203506413",""	

Call Variable Data Presentation

- Can select one variable for display in the call control gadget header field
- Select up to 20 call variables for display in 2 column layout
- Single layout definition currently (v10.5)
- Multiple layouts planned for later release

nage Call Variables L	ayout					
Call Header Layout						
Display Name	Variable					
Call Variable 1	callVariable1	•				
Call Body Left-Hand Colu	mn Layout		Call Body Right-Hand C	olumn Layout		
Display Name	Variable	Dele	2 Display Name	Variable		Delete?
BA AccountNumber	BAAccountNumber	- >	BA Status	BAStatus	•	×
BA Campaign	BACampaign	<u> </u>	BA Response	BAResponse	•	×
Call Variable 1	callVariable1	- >	Call Variable 6	callVariable6	-	×
Call Variable 2	callVariable2	- >	Call Variable 7	callVariable7	•	×
Call Variable 3	callVariable3	- >	Call Variable 8	callVariable8	•	×
Call Variable 4	callVariable4	- >	Call Variable 9	callVariable9	•	×
Call Variable 5	callVariable5	- >	Call Variable 10	callVariable10	-	×
Add Row			Add Row			



Call Variable Data Presentation

Cisco Finesse Administration Call Variables Layout Desktop Layout Phone Books Reasons Team Resources Workflows	Sign Out
Manage Call Variables Layout	
Call Header Layout Display Name Variable Attendee ID callVariable3 Call Body Left-Hand Column Layout Call Body Right-Hand Column Layout Display Name Variable Company callVariable1 Call Variable4 X Mobile callVariable4 Variable Variable4 Variable Attendee ID Call Variable6 X Add Row Interf. Agent Ann Dronicus (andronicus) - Extension 7702 Stree Talking	Resultant Desktop Output
Name: Isaac Mason Company: Boyle and Lancet Mobile: 07260013295	II Hold
	Ciscolive

Workflows

- Define automated actions and the events / conditions that trigger them
- Each workflow definition comprises 3 things -
 - 1. One of the following triggering events
 - Call arrives
 - Call answered
 - Call ends
 - Making outgoing call
 - Outbound call preview
 - 2. Conditions that must match for the action to be invoked
 - Match ANY or ALL conditions in list
 - Variable <operator> Value (<operator> is equal, not equal, contains, is in list, etc)
 - 3. The predefined action that will be performed



Workflows

Manage Workflows

List of Workflows

Name	Description
Cisco Live Incoming	CC breakout helpline incoming caller details
Log Call Details	Log answered call to back-end call history
Cisco Live Incoming CC breakout helpline incoming caller details	s Trigger Event
When a Call arrives	
If all Conditions are met If all Conditions are met BRKCCT	Conditions
Actions Q Add	
Type d BROWSER_POP	Actions List
S	Name Cisco Live Incoming Log Call Details C breakout helpline incoming caller detail When a Call arrives Is equal to BRKCCT Ctions Q Add Type BROWSER_POP

Workflow Actions

Two Types of Action

- 1. Browser window pop-up
 - Or, new tab (depending on browser behaviour settings)
 - Re-uses window/tab when same action is next triggered
- 2. Make HTTP request
 - POST or PUT method
 - URL either points to Finesse server itself or other external destination
- URLs and request body contain substitution tags to include run-time variables
- Actions handled by built-in Finesse handler or custom gadget action handler
- Single action can be used to trigger processing in (multiple) custom gadgets (Gadgets subscribe to workflow action events)

Workflows	Manage Workflow Actions
Browser Pop	NameTypeAdd To Call HistoryHTTP RequestGet Caller DB RecordBrowser PopStart RecordingHTTP Request
Edit Action Name Get Caller DB Type Browser Pop	Record Open or re-use window/tab
Handled by Finesse Deskto	
Window Name Caller_Lookup Browser URL http://10.52.2	202.40:8080/custdb?attendeeID= callVariable3 × & callingNumber= fromAddress × •
Sample Data callVariable3 111222 fromAddress 07788996655	Variable substitution and preview
Browser URL http://10.52.202	.40:8080/custdb?attendeeID=111222&callingNumber=07788996655



Workfl	ows	Manage Workflow Actions		
HTTP Req	juest	Name Type Add To Call History HTTP Get Caller DB Record Brows Start Recording HTTP	Request Request Request	
Edit Action				
Name	Start Recording			
Handled by Method Location Content Type URL Body	Finesse Desktor POST Finesse application/xml /finesse/api/Us <dialog></dialog>	HTTP request to Finesse API		
	<requestedad <targetmedia </targetmedia </requestedad 	ction>START_RECORDING Address>extension ×	Ciscolive	

Morkflows	Manage Workflow Actions	
HTTP Request		
	Name Type	
	Add To Call History HTTP Request	
	Get Caller DB Record Browser Pop	
Edit Action		
Edit Action		
Name Add To Call H	istory	
Type HTTP Reques	st 🔽	
Handled by Finesse Desk	top 🗾	
	HTTP request to external URL via Finesse server	
Method POST		
Location Other		
Content Type	encoded	
URL http://10.52.2	02.40:8080/LogCall	
Body agent= login]	d★ &from= fromAddress★ &ext= extension★	
	Request body built with variable substitution	
_		Ciscolive








Workflow Limits

Max Configured Workflows	100
Max Configured Actions	100
Max Conditions Per Workflow	5
Max Actions Per Workflow	5
Max Variable Substitutions Per Action	5
Max Workflows Per Team	20



Adding Custom Gadgets

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53



Next Step: From Out-The-Box to Custom Content



Making The Leap To Customisation

Progressively Increasing Level Of Complexity

- 1. Starting out the "Hello World" gadget
 - Simple passive content using static HTML
- 2. Insert standalone external web content
 - Content served from external URL, such as:
 - Information tools (weather/time/financial), mapping, reporting data, web applications
- 3. Actively integrated web content
 - Receiving Finesse events
 - Invoking Finesse API commands
 - Modifying web content dynamically
 - Such as custom buttons, transfer shortcuts, RONA alerts, add custom recording tags



The "Hello World" Gadget

- Start with something absolutely basic
 - Simply display some passive text
 - Understand the mechanism
 - Build, deploy and add to the desktop





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Gadget XML

Getting started

- Be pragmatic
- Set the gadget title bar value
- Just accept the gadget wrapper XML content
- Understand it later

<?xml version="1.0" encoding="UTF-8"?>

<Module>

<ModulePrefs title="Absolutely Basic Gadget" > <Require feature="settitle" /> <Require feature="dynamic-height" /> <Require feature="pubsub-2" /> <Require feature="setprefs" />

</ModulePrefs>

<Content type="html">

<![CDATA[

11>

</Content> </Module> Your Content In Here



Gadget XML

Getting started

- Be pragmatic
- Set the gadget title bar value
- Just accept the gadget wrapper XML content
- Understand it later

Concentrate on the content

- The part within the CDATA section
- That's what will form the rendered gadget content

<?xml version="1.0" encoding="UTF-8"?>

<Module>

<ModulePrefs title="Absolutely Basic Gadget" > <Require feature="settitle" /> <Require feature="dynamic-height" /> <Require feature="pubsub-2" /> <Require feature="setprefs" /> </ModulePrefs>

<Content type="html">

<![CDATA[

k rel="stylesheet" href="AbsolutelyBasicGadget.css" type="text/css" />

<body>

<div class="mainbody"> <h1>Hello Cisco Live</h1>

<h2>It all starts here – now just make it do what you want</h2>

</body>



Embedding Web Content

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53



Embedded Web-Page / Web-App

- Add an HTML <iframe> tag pointing to the required URL
- For example, embedding a Google map in a simple 2 cell table –





Now Showing

Gadget Sizing Problem



Getting The Size Correct

- The map iframe is constrained by the size of an outer iframe that contains it
- Need to use JavaScript
- Call gadgets.window.adjustHeight() method to resize the container
 - As part of onConnect processing
 - Have to reload for change to become visible
 - When the tab is navigated to
 - Sizing correct but content is rendered in a smaller window resulting in the map incorrectly centered
 - When the tab is navigated to, dynamically insert the iframe into the table and resize
 - Works correctly, best approach



Re-sizing The Gadget

- In this example, leave the table cell empty (could alternatively use a <div> as placeholder for content)
 - assign an ID to be used as a placeholder (id="loadMapHere")
 - add a user-defined attribute as a flag (data-loaded="false")
- 2. Invoke JavaScript from HTML via onConnect handler
- 3. In JavaScript, register a Tab-Visible handler
- 4. When tab becomes visible and the handler is called, modify the table to include the embedded web-content iframe
- 5. Resize the gadget with the gadgets.window.adjustHeight() method



<script type="text/javascript" src="jquery-1.9.1.min.js"></script> <script type="text/javascript" src="finesse-10.5.1.js"></script> <script type="text/javascript" src="map.js"></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script>

Successful Embedding – The HTML

```
k rel="stylesheet" href="map.css" type="text/css" />
```

<body class="claro">

```
<t<u>r></u>
```

```
Added standard and custom JavaScript
```

Table cell 1 empty, tagged as our placeholder

```
<h3>Now Showing!</h3>
<b>BRKCCT-2559</b>
The Essential Quick Start Guide To Adopting Finesse As The Agent Desktop Interface
```

Set onConnect action to call our custom JavaScript

```
<script type="text/javascript">
```

```
gadgets.HubSettings.onConnect = function () {finesse.modules.map.init();};
</script>
```

Successful Embedding – The JavaScript

```
var finesse = finesse || {};
finesse.modules = finesse.modules || {};
                                                                        Function called when tab is navigated to
                                                                        · Tests whether the modification was already done
finesse.modules.map = (function (\$))
  var handleTabVisible = function () {
                                                                           Modifies HTML, inserting URL to required web content
     if ($("#loadMapHere").attr("data-loaded") == "false")
                                                                          Adjusts the gadget height
       var url = "https://www.google.com/maps/embed/v1/place?zoom=16&q=mico+milan&key=AlzaSy...";
       var addhtml = '<iframe width="600" height="350" style="border:0" src="' + url + "'> </iframe>';
       $("#loadMapHere").html(addhtml);
       $("#loadMapHere").attr("data-loaded", "true");
        gadgets.window.adjustHeight();
  };
                                                Function finesse.modules.map.init() called from HTML when gadget is loaded
  return

    Adds the handler to be called on tab visible events.

     init: function() {
        containerServices = finesse.containerservices.ContainerServices.init();
        containerServices.addHandler(finesse.containerservices.ContainerServices.Topics.ACTIVE TAB, handleTabVisible);
       finesse.containerservices.ContainerServices.makeActiveTabReg();
}(iQuery)):
```

Including Finesse User Credentials

- May be required to include user login credentials on web app URL
- Can include as params on HTTPS URL the iframe points to



Modified Gadget Content

| cisco | Agent Ann Dro | onicus (andronicus
10:59 | s) - Extension 7702 | | - | | | | | | Sign Out | * | | | |
|--|--|-----------------------------|---------------------|--------------|------------------------------------|------------------|------------------------|--|--|------------|------------|----------|-------------------|------------|----------|
| Home | My Statistics M | lanage Call Charts | Layout Map Break | | | | | | | | | | | | |
| C M | ake a New Call | | | | | | (| _ | | | | | | | |
| Breako | uts | | | | iframe 1090 x 500 | | | • | <ifra< th=""><th>ame> a</th><th>dded</th><th>ISTOMU</th><th>Jontent m</th><th>ioainea</th><th></th></ifra<> | ame> a | dded | ISTOMU | Jontent m | ioainea | |
| | | | Inspector – http | os:/ | /10.52.200.16 | 5:8445/des | ktop/co | • | Inclu | udes us | ser cred | entials | as URL | params | .) |
| C | R 🗅 | Inspector | Console | | Debugger | | Style Editor | | 🕜 Per | formance | - Ne | twork | D | ☆ □ | |
| | d gadgets- | gadget-content- | -14.gadgets-ga 📏 | > 9 | pan 🔿 iframe | #finesse_gadg | et_14.gadg | ets-ga | udget 🔿 | > htm > | | Rules | Computed | Fonts | E |
| | <pre><div data-loaded="true" id="customContent"></div></pre> | | | | | | | | 0 | | | | | | |
| | | | /?user=andro | oni | cus&password=c | isco" style: | ="border:0 | 0''> | | | | | 0 | | |
| Email isaacmason@boylelan BRKCCT-2558 Mobile Devices and Maximising Customer Engage | | | | | | | Engagemen
45/deskto | hent service of the s | | | | | | | |
| | | | | R | 🖨 Inspector | > Console | 🕕 Debu | gger | 🗹 Sty | le Editor | Performar | nce 📻 N | etwork 🛌 | 🗉 🗱 | |
| | Company | Boyle and Lan | cet | √ | Method | | File | | | | Domain | | Туре | Size | |
| | Job Title | Solution Desig | ner | | Headers | Cookie | s | Pa | arams | | Response | - | Timings | Preview | w |
| | Attendee ID | 106717 | R | Requ
Requ | iest URL: https
iest method: GB | ://10.52.20
T | 02.40:818 | 1/cus | tdb/?u | ser=andror | icus&passw | ord=cisc | 0 | ad Davida | and a va |
| | | | ß | tati | | | | | | HTTP | S reque | est for | <iframe></iframe> | conten | t |
| | | | | | | | | | | | | | (| Ciscoll | VC! |

Workflow Action Event Handling

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Browser-Pop Into Finesse Gadget

- We've successfully embedded web content into a gadget
- The next stage –

Q. How do we refresh it dynamically based on caller data?

A. Use a workflow action, Type = BROWSER_POP, Handled By = OTHER

• The steps involved –

- 1. Enable the gadget to listen for Workflow Action Events
- 2. Once listening, a gadget receives every workflow action event regardless of type
- 3. Analyse the data delivered with the event
- 4. Determine whether to process the event or ignore it
- 5. Modify the (required section of) gadget HTML with the new URL in the event data (Doesn't actually have to use the URL supplied can do anything whatsoever)



Listening For Workflow Action Events



Processing The Workflow Action Event



Workflow Action Event



IIIII Agent Ann Dronicus (andronicus) - Extension 7702

Sign Out

Workflow Action Event



Using Workflows To Send Data To Gadgets

- Workflow actions can provide a simple way to send commands/data to gadgets
 - Based on workflow trigger conditions
 - Payload comprising up to 5 variables + fixed data values
- Gadgets listen for Workflow Action Events
- Filter on Type = HTTP_REQUEST, Handled By = OTHER
- Use the request Body as the payload
- Encoding in JSON format means data is accessible as a JavaScript object
- Data fields then conveniently accessed as object properties
 - For example, payload.targetGadget, callInfo.attendeeID
- Each listening gadget can be coded to process the event/data if required

Processing The HTTP Request Workflow Action







Alternative To Monitoring Agent / Call State Changes

- Simpler than monitoring agent state changes and call data
- Allows triggering logic to be configured outside rather than coded into gadgets
- Static commands / data can also be passed in addition to call variables
 - For example, ...
 - Could send a list of transfer shortcut numbers relevant to the specific call type
 - Making dynamic changes to gadget HTML possibly which fields/options are enabled
- Workflow configuration assigns meaningful names to data items
 - Gadget doesn't have to inspect specific call variables
- Limitations
 - Not all events supported as workflow triggers
 - Max 5 variables can be included in the action event

Call Control And State Change Events

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in an



Call Control And Event Handling

- Gadgetry so far
 - Using gadgets to include embedded web content
 - Updating web content dynamically
 - Incorporating call data in HTTP requests
 - Handling events resulting from workflow execution
- The next stage
 - Gadgets performing call control
 - Handling agent and call state events
 - Adding functionality behind agent desktop actions
 - Using the Finesse Client Services API



Example: Adding Buttons For Transfer Shortcuts

- Use case
 - Array of custom buttons to function as instant transfer shortcuts
 - Buttons appear only when the agent is in Talking State and transfers are valid

| cisco | Agent Ann Dr
8 Not Ready - F | onicus (andronicus) - Extension | n 7702 | Sign Out 🔻 | | | | |
|--------|--|---------------------------------|---|------------|--|--|--|--|
| Home | My Statistics | lanage Call Charts Layout M | Aap Breakouts Session | | | | | |
| C M | ake a New Cal | 1 | | | | | | |
| | | | | | | | | |
| Breako | uts | | | | | | | |
| c | Cisco Live Milan Contact Centre Tech Breakouts | | | | | | | |
| | Name | Isaac Mason | | | | | | |
| | Mobile | 07918398436 | BRKCCT-2557 Exploiting Features for Maximum Effect in CCX BRKCCT-2558 Mobile Devices and Maximising Customer Engagement | | | | | |



Example: Adding Buttons For Transfer Shortcuts

- Use case
 - Array of custom buttons to function as instant transfer shortcuts
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Example: Adding Buttons For Transfer Shortcuts

- Use case
 - Array of custom buttons to function as instant transfer shortcuts
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| CISCO 🤤 Talking 🗸 | ronicus (andronicus) - Ex | ctension 7702 | | Sign Out |
|--|---------------------------|--|-----------|-----------------------|
| Home My Statistics | Manage Call Charts Lay | vout Map Breakouts | Session | |
| 00:04 Attende | ee ID: 106717 073 | 85497690 | III Hold | - End |
| Name: Isaac Mason
Company: Boyle and I
Mobile: 07918398436 | Lancet | Attendee ID: 106717
Breakout Type: BRK0
Session ID: 2559 | CCT | Wrap-Up Reason Apply |
| Security Trav | vel Support | | | |
| Breakouts | | | | |
| | | | | |
| Cisco Live | Milan Contact | Centre Tech E | Breakouts | |

Transfer Buttons – The HTML

3 custom buttons with default labels

- Button ID passed to transfer function on click
- Transfer destination could also be configured here but is done in JavaScript in this example


Transfer Button Processing – The JavaScript

- init() function called when the gadget has loaded
 - 1. Initialise the Finesse ClientServices interface
 - Supplying hostname / IP and user's access credentials
 - 2. Add onLoaded and onChange handlers to the user (the agent)
 - To get initial agent information and detect changes in state
 - 3. Modify the HTML
 - Update the button labels
 - Add the transfer destination to the buttons as user-defined data



Transfer Button Processing – Initialisation

```
init : function() {
                                                                     Initialise Finesse ClientServices, passing
                                                                     Config object containing IP addressing and
     . . .
                                                                     access credentials
    finesse.clientservices.ClientServices.init(finesse.gadget.Config);
    user = new finesse.restservices.User({
                                                        Create agent object, getting current
         id: id,
                                                        status and adding handlers to process
         onLoad : userLoaded,
                                                        the response and notification of updates
         onChange : userUpdated
    });
    $ ("#button1").text('Security').data('xferdest', '3301');
                                                                           Modify the button labels and add
    $ ("#button2").text('Travel').data('xferdest', '3302');
                                                                           the transfer destination numbers
    $ ("#button3").text('Support').data('xferdest', '3303');
                                                                           as user-defined data
```

Note. Some JavaScript omitted for simplification

- Button data is set statically in this example
- Alternatively, personal settings could be retrieved from server using agent ID
- Could also be updated dynamically based on call type using a workflow action triggered when a call arrives

Transfer Button Processing – Agent State

- userLoaded() handler called when user object has loaded
 - 1. Extract current agent state
 - 2. Look-up current call dialogs
 - 3. Add handlers to be called when call dialogs are added and removed
 - 4. Re-render the gadget display
- **userUpdated()** handler called when the user state changes
 - 1. Extract current agent state
 - 2. Re-render the gadget display



Transfer Button Processing – Agent State

// User load completed so initialise state and do initial rendering of the gadget

```
userLoaded = function(evUser) {
```

```
dialogs = evUser.getDialogs( {
    onCollectionAdd : dialogAdded,
    onCollectionDelete : dialogRemoved
});
```

```
extn = evUser.getExtension();
agentState = evUser.getState();
updateDisplay();
```

Access the call dialogs object for the agent, adding handlers to be called on new dialogs being added to the dialog collection and existing dialogs being deleted.

Extract the current agent state, save the extension ID for use later in the transfer request, and update the gadget display.

// User updated so update state and re-render gadget

```
userUpdated = function(evUser) {
```

},

},

```
agentState = evUser.getState();
updateDisplay();
```

Handler is passed the user object. Simply extract the current agent state and update the gadget display.



Transfer Button Processing – Call Start / End

- **dialogAdded()** handler called when a new call dialog starts
 - 1. Check the current call dialog count
 - 2. If this is the first one, save it for use later on a transfer request
 - 3. Add handler to be called when the call dialog state changes

- **dialogRemoved()** handler called when a call dialog ends
 - 1. Clear the saved dialog if it's the one that has ended as transfer is no longer an option



Transfer Button Processing – Call Start / End

// Handler for new dialog added

```
dialogAdded = function(dialog) {
```

```
var dialogCount = dialogs.getDialogCount(true);
```

```
if (dialogCount == 1) {
    xfrdialog = dialog;
```

```
dialog.addHandler('change', callUpdated);
```

Look up the number of call dialogs associated with this agent. If this is the first one, then save the dialog for subsequent transfer.

Add a handler to be called on call dialog state changes.

// Dialog ended handler

},

```
dialogRemoved = function(dialog) {
    if (dialog === xfrdialog) {
        xfrdialog = null;
     }
},
```

Clear our saved dialog if that's the one that has ended. Transfer is no longer possible.



Transfer Button Processing – Call State

- callUpdated() handler called when the call state has changed
 - 1. Get the current call state
 - 2. If the call has failed, update the gadget HTML status field
 - 3. Update the display to hide the buttons

```
callUpdated = function(dialog) {
    callState = dialog.getState();
    if (callState === dgstates.FAILED) {
        $('#statusMsg').html("Call Failed");
    }
    updateDisplay();
},
```

Extract current call state

If call failed for some reason during transfer then modify the HTML to show the message and update the button display.



Transfer Button Processing – Show / Hide

- **updateDisplay()** function to hide or show the buttons and transfer block
 - 1. Update the HTML to expose the buttons if the call is in a viable state for transfer
 - 2. Otherwise hide the buttons and clear the status message

```
updateDisplay = function() {
    if (agentState === agstates.TALKING && callState === dgstates.ACTIVE) {
         $('#transfer-buttons-all').show();
         $('#transfer-block').show();
                                                 Call can be transferred if agent is in TALKING
        gadgets.window.adjustHeight();
                                                 state and the call state is ACTIVE, so expose
                                                 the buttons on the desktop.
    } else {
         $('#transfer-block').hide();
         $('#statusMsg').html("");
        gadgets.window.adjustHeight(0);
},
```

At Last, The Transfer Itself

- transfer() function called when button is pressed
 - 1. Get the transfer destination from the data attached to the button that was pressed
 - 2. Perform the transfer by calling the transfer method on the call dialog
 - 3. Include handlers to be called for success and failure outcomes
 - 4. Hide the buttons while transfer is in progress and display a progress message

```
transfer : function(button) {
    if (xfrdialog != null) {
        var target = $("#" + button).data('xferdest');
        Lookup the transfer destination
        xfrdialog.initiateDirectTransfer(extn, target, {
            success : transferSuccess,
            error: transferError
        });
        ('#transfer-buttons-all').hide();
        $('#transfer-buttons-all').hide();
        $('#statusMsg').html("Transferring to " + target + "...");
        }
    }
} Hide buttons and show transfer message
```

Handling The Transfer Outcome

transferSuccess() – handler called on transfer executing successfully

```
transferSuccess = function(rsp) {
    $('#statusMsg').html("Transferred");
},
```

Simply display a message to show success

transferError() – handler called when the transfer fails

```
transferError = function(rsp) {
    $('#statusMsg').html("Transfer Failed");
    updateDisplay();
},
```

Display a failure message and update the display to expose the buttons again



Alternative Approaches

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Direct Integration With Finesse REST API Possible Use Cases

- Finesse desktop doesn't fit desktop strategy
- Conflicts with business use of desktop real-estate
- Non-browser based agent desktop applications
- Existing desktop application that uses server-side integration
- Custom web application framework using server-side CTI
- Special tools or CTI applications
 - For example, the robot agent simulation described at Cisco Live Milan 2014 (Java application using REST web services client and XMPP listener)
- Any language/environment will work provided HTTP / XMPP messaging possible

Server-Side Integration With Finesse



Client-Side Integration Using JavaScript

Possible Use Cases

- Existing in-house web-based desktop application
- Third-party web-application if it supports embedding custom web content
- Approach requires embedding additional web content in existing pages
 - Modify page content to include additional CTI desktop controls within the user interface
 - Use JavaScript for Finesse REST API messaging
 - JavaScript XMPP library for event handling
 - Beware the Single Origin Policy
 - One workaround is to use a reverse proxy in front of both Finesse and the application web server
 - Could be located on the web/app server if the application server platform supports it
 - As the starting point, check out the Non-Gadget sample on DevNet



Browser / Client-Side Integration With Finesse



Getting Started Tips

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A Few Practical Tips

Beware The Cache !

- While developing, add &nocache to the Finesse URL
 - For example, <u>https://fs-dev-svr:8445/desktop/container/?locale=en_US&nocache</u>
 - Prevents the Finesse server using cached copies of gadgets and JavaScript
- Clear the browser cache to ensure JavaScript is reloaded
- Ensure external web servers are serving the required versions
 - For example, load the gadget URL directly into a browser to check the XML content



A Few More Tips

- Make simple use of browser developer tools
- Use the web console to see your diagnostic logging output and run-time errors
- · Confirm you've loaded what you think you've loaded
 - Use Inspect Element typically right-click on browser content
 - Can see HTML and CSS styling that's generating the content you're viewing



Final Tips

- Pick a non-complex sample gadget as the starting point for custom work
- Reduce syntactical errors
 - Edit source code using IDE or context sensitive editor
- While developing, use an external web server to host gadgets and associated files
 - Quicker turnaround of changes than loading onto Finesse server
 - Can host on Finesse when completed if preferred
- Have constant supply of generated calls in queue
 - Traffic simulation tools are useful during development and testing
 - Generates calls, which generate events
 - Generates content for calls reporting data, screen pops based on caller ID
 - See Cisco Live Milan 2014 session BRKCCT-3240 on ciscolive365.com
 - Materials referenced in that session can be accessed at <u>https://cisco.box.com/CC-Traffic-Simulation</u>

Help Is At Hand



Cisco DevNet For Developer Resources / Samples

| die Sample Gadgets – Cisco Fil × | | | | | | | |
|--|---|--|--|---|-------------------------|-----------|--|
| ← → C 🎴 https://develo | oper.cisco.com/site/collaboration/contact-center/finesse/learn/sample-gadgets/index.gsp | | Google Maps Screenpop Sample Gadget 10.0.1 | | | | |
| | ri[i,i]i,
CISCO. DevNet | Welcome! Log In Register | | The Google Maps Screenpop gadget provides a screenpop of a Google Maps location from address data in a Callvariable. It
requires an API key from Google. | | | |
| | Menu + Overview Documentation Learn Help | | 0 | Google Maps Screenpop Gadget | | | |
| | Home > collaboration > contact center > finesse > learn > sample gadgets | | | Washington, I | DC
ittery roogne | Geocor | de Park |
| | Sample Gadgets | CUIC Sample Ga | adget 10.0.1 | | | | Naval |
| | Download a zipped file containing all of these gadgets or download the ones you want below. | The CUIC sample gadget demonstrates how to create a gadget that displays a permalink in an iframe. The gadget is rendered whenever the tab the gadget is on is first visible. (Requires Finesse 9.1(1) or later) | | | | | |
| Embedded Salesfo | mbedded Salesforce dot com (SFDC) Sample Gadget 10.0.1 | | | | | B | Burleith -
Hillandale Kalor
Heig |
| EmbeddedSFDC Gadget | | Supervisor | Team Name | Total Agents | Logged On After | Call work | rvoir Rd NW |
| Credentials | usemame: dender@cisco.com password •••••••• Logn | 11001, Agent | AT11000
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9
9 | 1 1 2 | 0 0 0 | |
| salesforce.com | Setue - Developer C | 11001, Agent | ATAK | 27 | 4 | 0 | |
| Home Start Here Merchandise > | | 11177, Agent | ATTI CallRec | Recording Sample Gadget 10.0.1 | | | |
| Create New David Ler | nder at Cisco Systems
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| Advanced Search | a no areina avirauden no se renz z uaga. | null | AT11 Start | Recording | | | |
| Recent Items Finesse Agent 1 Cisco Systems | | Download CUICSampleC | Sadget- | Make a New (| Call | | _ |
| Download the EmbeddedS | SFDCSampleGadget-10.0.1.zip > | | Download | the CallRecordingSa | npleGadget-10.0.1.zip > | |). |
| | | | | | | | Cisco |

Finesse Developer Community Forum

| welcome, Guest Help Login Q Search Cisco C | | | | | | | nmunities | | | |
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| Products & Services Pa | artners 🔒 | Global | Developer | Support 🖸 | Learning [| Blogs 🖸 | | | | |
| Cisco Communities > Developer > Collaborati | on > Contact Center > | Finesse | | | | | Browse = | | | |
| Finesse | com/community/deve | | | | | | | | | |
| | | | | | | | | | | |
| Overview Content | | | | | | | | | | |
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Development Partner Components



Call to Action

- Visit the World of Solutions for
 - Cisco Campus
 - Walk in Labs
 - Technical Solution Clinics
- Meet the Engineer
- Lunch time Table Topics
- DevNet zone related labs and sessions
- Recommended Reading: for reading material and further resources for this session, please visit <u>www.pearson-books.com/CLMilan2015</u>



Complete Your Online Session Evaluation

- Please complete your online session evaluations after each session. Complete 4 session evaluations & the Overall Conference Evaluation (available from Thursday) to receive your Cisco Live T-shirt.
- All surveys can be completed via the Cisco Live Mobile App or the Communication Stations







Thank you.

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