

Salesforce Certified Technical Architect

Mock Scenario

Musicians Incorporated

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Scenario

Instructions

For the hypothetical scenario described below, the candidate will have 120 minutes to read, evaluate, and document a high-level architectural solution. The solution should:

- Address where the Force.com platform will and will not be used.
- Describe how the Force.com platform portion of the solution will interact with the other systems needed to complete the solution
- Identify any potential key risk areas.

The candidate should target the presentation to a technical IT architecture audience. In cases where requirements are not explicitly stated for the scenario, the candidate should use his or her best judgement and make appropriate assumptions based on the information provided. The candidate should indicate to the review board any assumptions that were made when designing the proposed solution. The candidate will not have an opportunity to ask clarifying questions related to the hypothetical scenario.

The candidate will be evaluated on their ability to assess the scenario requirements, design a solution, communicate the proposed architecture, and justify the design decisions. The candidate will not be evaluated on the tools used for the presentation.

Project Overview

Musicians Incorporated (MusInc for short) provide equipment insurance and public liability insurance (PLI) for musicians of all levels: From amateurs playing in pubs and small clubs, to professionals at venues of all sizes right across the world.

I don't pick unusual industries on purpose. And if you look past the customer base of this, it's a fairly standard Financial Services scenario.

Their main office is in New Jersey, USA. And they have legal entities in regional offices in Paris, France; Melbourne, Australia; Buenos Aires, Argentina; Bengaluru, India; and Cape Town, South Africa.

Multiple locations is fairly common. Keep an eye out for any 'gotchas' and be prepared to demonstrate knowledge and experience of country-specific legislation if any is applicable

Given the regional nature of the system, they want users to be able to use it in their local languages. This includes English, French, Spanish & Kannada. They also want to support ALL currencies but run overall P&L on USD.

Multiple currencies is also fairly common. Both of these will feed into your org strategy decision. For this scenario, there is no reason to do anything other than single org.

Kannada is a platform-supported language only - knowing that and pointing it out demonstrates platform knowledge.

Most of the trade volume comes from amateur musicians, or those provided cover as a perk of Musician's Union Membership. However, MusInc also provides insurance services for professionals both at residence and on tour as a 'high touch' service.

Current Systems

1. There is currently no global CRM system, with each of the offices entering data locally into an Access database. MusInc would like this data consolidated into Salesforce.

Make a note of the data migration requirements here. Be able to describe the approach and best practice.

2. MusInc use a 3rd party service called ActuaryCalc to calculate insurance premiums. This is a global service and is used by all offices, for sales made in all countries. Currently data entry is manual into a screen however ActuaryCalc have informed MusInc that they do support REST based integrations.

You can expect to see a variety of integration patterns and technology in any scenario. Be prepared to have the best solution for all of them.

3. Each office has separate telephony in place. This is complicated by the fact that two of the offices (Melbourne and Cape Town) use managed office space in WeWork locations. MusInc would like advice on a comprehensive telephony solution.

Because it is managed offices, and combined with future requirements - you need to select a cloud-based telephony provider. You can't go wrong with Service Cloud Voice or Amazon Connect (depending on licenses)

4. Active Directory. MusInc uses AD for all users, which currently requires a VPN for access

AD being in place is also fairly common. Note that Active Directory itself ISN'T an identity provider, it's just a store.

5. MusInc uses the World Bank Service (WBS) to underwrite its policies. For a policy to be active, it must have been successfully registered with the WBS. World Bank expose a SOAP API.

We have our second integration here, and it's a different technology. Most scenarios will have needs for an ESB and an ETL. As soon as you see orchestration or different integration technologies you are on safe ground to position an ESB.

Future Landscape

1. MusInc would like to introduce an app for their customers to make the application process, evidence capture and claims processing easier. They would like advice on how best to meet this requirement. Note that there is currently no authentication service for customers as there are no services in place that would require this. MusInc would like to allow customers to use Facebook and Twitter to accelerate registration and login as well as a simple 'register' page for those who do not use these services.

Note the need for a) a mobile app, and b) social sign on. Look to both the requirements and the scenario information/background to make a mobile app decision.

2. The Equipment Partner Managers have explained that serial number checking is possible via an integration to the majority of the big manufacturers. These use a variety of technologies. Note that not all hardware manufacturers provide this (some are very small) however it is expected that >90% of insured equipment would be possible to check. MusInc would like advice on how to take serial numbers and auto-validate equipment details.

"variety of technologies" - clear call out for a middleware to handle integration calls.

Users

As always when it comes to users, look for the optimal license type. Although you can assume unlimited funds for the purpose of your solution, you wouldn't score properly if you just gave everyone the highest licenses available.

Remember to select AND justify. That is how you score the points.

1. There are roughly 20 users per office that cover **general admin** and servicing of customer accounts. Updates to records, processing of paperwork, validation of provided photos, serial numbers, etc.
2. **Equipment Claims Specialists**. Roughly 200 globally, including 50 who are dedicated to high value items and claims.
3. **PLI Claims Specialists**. A small, global, team of 10 that handles all PLI claims.
4. Each Region has a **Claims VP** who needs to be able to see all claims and accounts within their region.
5. A small number of **Musician Union Partner Managers** who need to be able to see all memberships provided as Musician Union perks only.

6. There are also **Equipment Partner Managers** for key hardware producers (Fender, Marshall, Gibson, Hartke, etc.) - each manager here needs to be able to see policies that include equipment manufactured by the hardware partner they represent.
7. 50 **Account Managers**, who provide high-touch service to professional musicians.

Business Process Requirements

New customers come to MusInc via three separate channels.

A general note here - this scenario calls for FS Cloud. If you are not familiar with FS Cloud you could go for a custom build but you would surely be questioned about it.

Knowing the Salesforce vertical products is an important part of your knowledge. And as with any managed package - which is how you can think of them - you need to know two things:

- The impact on the data model
- The impact on the licensing

1 - New Customers - Amateur Individual and Band

- A. This is for individual users and small bands that come directly to the website. Adverts are run in trade press and on targeted sites to direct this traffic.

There is no specific requirement here to solve, this is colour only.

- B. For an individual user, they provide details of their equipment total value and specifically list any item that is worth more than \$1,000. The standard policy provides equipment cover to the value of \$10,000 and Public Liability Insurance (PLI) to a value of \$1M.

This information about information will be captured, so think about the data model but also the screen flow and any exceptions to the main flow.

- C. For a band, the process is similar except that the total covered is \$10,000 per band member. PLI remains at \$1M
- D. Additional policy add-ons to the policy can make these values higher. These are handled on a case-by-case basis.
- E. MusInc will ask for photographic evidence of equipment over the high value threshold (which varies per country). This is typically a photo of the equipment in its entirety and a second close-up of the serial number. Currently these files are emailed across by the customer and then stored on a network share, but MusInc would like a more robust way to both capture and store the images.

If you're positioning a mobile app (which you are!) then these are important requirements that go into your selections. All app types can access the camera, but you need to think about the process as a whole. Customers are unlikely to want to post Chatter Files directly, even if that's where you end up storing them.

- F. The serial number will be cross-referenced across the manufacturers databases (so a Fender Stratocaster s/n will be checked against the Fender DB to get both a) certainty

of the product and b) its replacement value). This is currently manual, but MusInc would like this to be automated where possible.

If I was judging then I'd like to see some creativity here. When I did my landscape, I made use of Einstein OCR to process images and get serial numbers, then an integration of those numbers to the manufacturers site. I am sure there are other AppExchange packages or external services that can do image-to-text too.

As always, use the scenario and solve what is asked.

- G. There is currently no way for this information to be captured over the internet, but MusInc would like to include this.

Web2Lead maybe? Also the mobile app with some guided screen flows.

- H. Payment is taken either as a single upfront payment or by an initial payment followed by a scheduled payment being created. The policy is not active until the first payment is made. If paying on a scheduled basis, the cover will stop if a payment is missed.

Again, think of the end to end flow. It's easy to solve one requirement at a time but it has to be a cohesive and cogent solution. Note the multiple steps in this process and ensure the solution hangs together.

- I. Agents need to be aware of the status of a policy at any time.

Maybe a graphical element on the page layout, from a formula field? Notifications on the status change? I would certainly go declarative here.

- J. Currently payment is taken manually and card details entered into a payment machine at each of the offices. MusInc would like to revisit this and incorporate payment as part of the entire process.

Another integration, a tightly coupled one. This would need to be request-reply, as the majority of payment processing is. From a process point of view, we have actions that are reliant on the successful payment. But think about what happens if payment is unsuccessful.

- K. Once payment is complete, the policy information is sent to WBS. A response is required immediately to know if cover is valid.

A second request-reply callout as we need to know immediately if a policy is active.

2 - Musician Unions 'Perk' membership

This process is essentially the same, but has a slightly different path as in most cases no payment will be required. We can re-use most of the solution from above.

- A. The second channel is for musicians who are members of country-specific Musicians' Unions and have insurance provided as part of their membership. In these cases, there are no specific items listed but a standard cover of up to £5,000 for equipment and £500k PLI.
- B. Proof of membership of an MU is required to access this perk.

- C. The MUs around the world vary in technology, response times, and message format but almost all can be integrated. A separate process will be required for those countries where integration isn't possible.
- D. As with individual membership, add-ons to the policy can be purchased as line items. This will incur additional payment.
- E. Where payment is required, the process follows steps 1H-K (above).
- F. Where an additional policy is not active (due to non-payment) the standard level of 'free' cover provided with this policy remains active.
- G. The policy information is sent to WBS. A response is required immediately to know if cover is valid.

Whilst annotating, I realised that the steps above don't explicitly mention ActuaryCalc so you need assume that is in the flow somewhere. Scenario writers are only human. :)

3 - Professional Performers and Venues

- A. The third channel is professional performers and venues. These are very complex, as they involve large venues, huge amounts of equipment, travel and logistics as well as increased PLI in line with specific venues.
- B. This is a much heavier-touch channel and is therefore managed entirely by Account Execs, who generally only work on one or two accounts at a time.
- C. If a tour is being undertaken, full details will be required. This includes locations, full logistics, shipping information for equipment, travel information (for performers), country information.

From a data modelling view, we are capturing different information here that we don't need to for other channels. I am honestly not sure what from FSC could be used so this might need some custom objects.

- D. ActuaryCalc is still used to calculate premium payments.
- E. Payment for these services is usually paid via account, but depends on the risk profile. In some cases, upfront payment will be required.

So we have a fire-forget pattern here. Or at least, we don't need instant payment (except in some cases) so the process is definitely different. We need some decisioning here. I kept it vague, so make some assumptions about how those exceptions will be identified and then manage them.

- F. In these cases, a total bill of materials isn't required, but total values are.

Another difference - we don't get a list of equipment but rather a total value.

- G. As with the other policy types, the information is sent to the WBS.

All Channels

1. Regardless of the channel, the end result of a successful application is that a signed certificate of insurance and associated schedule is issued.

2. Currently these are written manually in the office and then emailed out as PDFs to policy holders. MusInc would like a better solution for this.

This needs two things: a document generation package and an electronic signature package. For all things 'AppEx' you should have "go-to" selections in your head. I always use Conga and DocuSign because I have experience with those. There are plenty of apps that have the features you need. Just pick them.

3. There have, in the past, been issues with validating certificates and MusInc would like to ensure that certificates are a) immutable and b) can be verified easily.

Let's get creative again. DocuSign (or your selection) will handle immutability and certainty but we need a simple way to verify. Maybe a QR code presented in the mobile app or simplified URL (bit.ly, or similar) so that artists can easily provide a link to their policy details when required.

4. Finally, MusInc would like the ability to record ALL calls and be able to access these recordings from within Salesforce.

We need to add this requirement to our telephony selection. Most cloud-based telephony will offer this, but be sure you understand how recordings are accessed, how they're secured and how any regulation - such as GDPR - is adhered to.

Venues

1. Nearly all venues will require proof of PLI before allowing a musician to play at their venue and need to prove that the policy is active.

Use the solution you've designed above - a QR code or some reference that an artist can provide.

2. Given the range of venues used, this needs to be possible both manually by telephone or email, and also automated via service call (some venues have booking systems capable of making integration calls).

3. As such, MusInc would like to expose a service to allow validation of policies in a systematic way, and also an email and voice channel to allow for manual queries.

In real life this is a stretch, but it's a reasonable requirement for a scenario. We need to expose a service that has a simple input and simple return (Yes/No/\$1M for example). A simple micro service is probably the best way. There will be no authentication provided and we're not exchanging any sensitive data.

We also need to cover emails and phone calls, which can be simply solved with Omni-Channel, but be sure to cover it off.

Claims

As with applications, claims are made entirely on the phone right now and this needs to be optimised. As with policies, there are two types of claims.

Equipment Claims

1. MusInc requires photos of the damage, and as much supporting information supplied as possible.

The mobile app should be able to do this in a straight-forward way. We might want to have Actions to simplify 'New Claim'. Think about the user experience as well as the architecture.

2. Claims under £10,000 are handled by the regular team; Claims of higher than this amount are handled by a 'high value' team. Claims should be automatically routed accordingly.

Some assignment and queues in place to make sure that claims are routed to the right place.

3. As part of the claims process, there is a check that payments are up to date to ensure that the policy is active.

This could be as simple as a lookup field to the account record or could be a branch in a screen flow.

4. Claims agents will process claims from a queue. There are no specific lead times applied to claims.

No SLAs... but there could be. Easily. I'd spend 10-15 seconds presenting this a future option. You want to demonstrate product depth as well as business acumen.

5. Equipment will sometimes be repaired, with the cost of the repair being covered. In these cases, only registered repair companies can be used. MusInc has these in an external directory but wants to include them in the new system and the ability to identify local registered companies to the policy holder

Firstly we will migrate the list into Salesforce. It could be a custom object, but probably makes more sense to be Accounts of a certain recordType. Then think about how we find 'local' companies and how we present that. I used Salesforce Maps in my landscape.

6. When new equipment is required, the equivalent purchase amount will be covered unless the damaged item is a specifically listed item.

7. Payment is made from WBS to the policy holder's bank account details.

If WBS is making the payment, they must need instruction from MusInc to do it. Think about the integration and what this looks like. Also think about where the bank account details are held. This scenario is vague about that, so make an assumption.

PLI Claims

This is a complex process.

1. Each claim will be assigned a dedicated PLI Claim Handler.
2. The Claims (General) team can view the top-level details of the claim only (Reference, Date, Venue, Performer). PLI Handlers can view records assigned to them only.

FLS. Don't overthink the solution. And remember that layouts aren't field security.

3. Each claim will have three parties:

1. The venue

2. The performer
3. The claimant

Full personal and contact information must be captured for each party.

Again I'm not so familiar with FSC to know if these relationships are standard or will require custom lookups. Either way, it's not complex.

4. Claim Handlers have discretion for settlement amounts that are directly related to the overall policy value. This is typically 50% of the total PLI cover amount
5. Settlements of greater than 50% of the PLI cover require VP approval.

Approvals. Most scenarios I've seen managed to have some kind of approval process!

6. Discussions / Negotiations with claimants are held either in person or via phone.
 1. Phone calls must be recorded.

We've already covered this requirement elsewhere.

2. In person meetings will be documented and require a write-up and signature before the meeting closes. This has been done manually so far, and MusInc would like to systemise this if possible.

We can use our eSig selection to meet this.

Data Migration Requirements

There is a clear need for data migration, consolidation and optimisation and MusInc would like advice on the best way to handle this.

Data Migration is a common requirement. Think about how you bring the data together, and standardisation that might be required. Optimisation, deduplication, enhancement, etc.

Then bring it together with your environments plan for how you will load, test and validate.

Visibility and Security

1. Users in an office should only be able to see customers and associated records for countries that their hubs handle.

This will need something creative, given hubs can handle multiple countries.

2. Only the Claim Handler and VP of Claims should be able to see a claim details for PLI claims

Private OWD and criteria-based sharing.

3. VPs require access to all issued policies.

Make use of the role hierarchy to solve this.

4. The Claims team require access to equipment claims for their region.

Private OWD and criteria-based sharing.

5. Equipment Partner Managers should be able to see any customer and associated equipment where the total value for their manufacturer is greater than \$15,000.

Although there is no temporal element to this (which ALWAYS means Apex sharing) this requires multiple criteria to be considered, and those criteria are on a child object. It might be possible to do something creative with rollups, but I question how sustainable that would be.

As such, go for Apex sharing to see this.

6. Professional Performers are handled only by Account Execs and shouldn't be visible to any other user.

Private OWD and criteria-based sharing.

7. A full audit of access to Professional records and attachments is required for compliance purposes.

You might be able to build something here, however Shield's Event Monitoring is probably a better solution. You should know about all three Shield products.

8. Customer records are essentially handled by country, via the 5 offices hubs:

- New Jersey covers North America and most of Central Europe
- Buenos Aries covers the South American countries
- Paris covers all of Europe and the Middle East
- Melbourne handles all APAC countries
- Cape Town handles Africa

You need to use the role hierarchy together with sharing rules and - probably - public groups. There are multiple ways to do this, but try to keep it declarative.

Reporting

Regional VPs require a list of all policies that have had claims in the last 3 months within their region.

Account Execs need to be able to quickly print a full list of policy details for their customers.

MU Partners need to be able to see all members who have Perk cover provided.

These are all standard reports.