Okay, here is the structured summary of the meeting transcript, broken down into logical segments.

**Segment 1: Introductions & Initial Process Query (Approx. 00:00 - 05:23)**

1. **Topic / Feature Discussed**
   * Team Introductions (Nice Team: Vincent, Maslin, Ison, Rafli, Dylan; Solution Architect/BA Team: Speaker B, Speaker D assumed SITA/APS)
   * Initial Query on APS Data Flow & Cooperation
2. **Client Requirements**
   * Need to understand the process of the Advance Passenger System (APS).
   * Need to understand how the teams should cooperate.
   * Requirement from "gym SME" (Government SME assumed) to investigate early PNR data.
   * Understanding that data (PNR, API, I API) flows from Airline -> SITA -> Nice.
   * Understanding that SITA cleanses data before sending to Nice.
3. **To-Do List / Action Items**
   * Speaker A's team (Nice) and Speaker B/D's team (SITA/APS assumed) need to discuss and clarify the APS data flow and timings.
   * Speaker D to show the data flow diagram/process.
4. **Clarifications & Key Assumptions**
   * Speaker A's team is responsible for the Risk Assessment Engine for "Nice".
   * Speaker C understands a previous "three-step" data process to Nice and wants clarification on the current flow, specifically the second step/timing.
   * Terminology: I API is no longer the term used; SITA uses AIB/IBB (Check-in data), but the definition is similar.
   * Initial data flow assumption (passenger buys ticket -> airline -> SITA -> Nice) confirmed as generally correct for the first step.

**Segment 2: APS Data Flow Explanation (PNR, APP, DCS, Manifest) (Approx. 05:23 - 11:16)**

1. **Topic / Feature Discussed**
   * Detailed APS Data Flow Timeline and Data Types (PNR, APP, DCS, API Manifest)
2. **Client Requirements**
   * Nice system requires PNR (booking), APP (check-in / I API equivalent), DCS (departure control), and API Flight Manifest data.
   * Requirement for *real-time* data feed for APP (check-in) to support board/no-board decisions.
3. **To-Do List / Action Items**
   * None explicitly mentioned in this segment, focus is on explanation.
4. **Clarifications & Key Assumptions**
   * **PNR (Booking Data):**
     + Can be booked up to 350 days prior.
     + First data drop to Nice: T-72 hours (batch, configuration-based).
     + Second data drop (updates): T-24 hours (batch, includes changes between T-72 & T-24).
     + Third data drop: T-0 (Flight Departure) (batch, sent with DCS data).
     + PNR is sent multiple times (stated as four times total across the process including post-departure manifest). [08:15, 08:18, 09:56, 10:01]
   * **APP (Advance Passenger Processing / Check-in Data):**
     + Sent in *real-time* as passengers check-in (can be up to 48/24 hours prior).
     + This is the equivalent of the previously mentioned I API.
     + APP is the *only* message type that triggers a response back from Nice/Govt to the airline (e.g., board/no board decision).
     + Triggers APS check against traveler wash list / Nice check.
     + Individual transactions (streaming).
   * **DCS (Departure Control System Data):**
     + Sent at T-0 (batch).
     + Contains accurate seat number, baggage weight, bag count.
     + Sent together in one message with the T-0 PNR drop. [08:10-08:12, 09:47-09:51]
   * **API Flight Manifest:**
     + Sent *after* departure (+/- 15 mins tolerance) (batch).
     + Contains the list of *all* persons actually on board (passengers and crew).
   * **Data Format:** PNR, DCS, API Manifest are sent as batches for the entire flight. APP is sent as individual transactions per passenger check-in.
   * **Differentiation:** Data feeds are differentiated by data type (PNR, APP, DCS, API).

**Segment 3: Crew Data, Security Docs & Unique Identification (Approx. 11:16 - 14:05)**

1. **Topic / Feature Discussed**
   * Handling of Crew Data
   * Capture of Security Documents (Passport, etc.)
   * Unique Passenger Identification Challenge
   * Data Integration Method (Kafka)
2. **Client Requirements**
   * Need data for flight crew.
   * Need to uniquely identify passengers across multiple data drops/events, especially as data quality improves closer to departure.
   * Nice requires a method to receive data feeds from APS/SITA.
3. **To-Do List / Action Items**
   * Nice system needs to implement logic to map/correlate passenger data across different messages/events to establish a unique identity. [Implied]
   * SITA/APS team to host data feeds on Kafka topic(s). [13:48-13:54]
   * Nice team to set up Kafka connect/consumer to pull events from SITA/APS Kafka. [13:54-13:58]
   * Nice/Government side to set up Kafka for publishing messages back (if applicable, needs clarification - likely referring to internal Nice architecture). [13:58-14:03]
4. **Clarifications & Key Assumptions**
   * **Crew Data:**
     + Crew typically do *not* have PNR (advance booking) data.
     + Expected data types for crew: APP (check-in) and API Flight Manifest only.
     + Specific API message types exist for crew vs. passengers ("apps"); they are not mixed.
   * **Security Documents:**
     + Capture during PNR stage is usually *optional*.
     + A significant percentage (up to 40-50%) may lack document numbers at the PNR stage.
   * **Unique Identification:**
     + It's challenging to uniquely identify passengers early (PNR). Accuracy increases closer to departure (e.g., at APP check-in with travel docs).
     + SITA/APS system has its own concept of identity; Nice needs to process multiple drops/events to correlate and build its own unique identity per person (potentially mapping to transactions/events initially).
     + Multiple data drops over time are designed to improve data accuracy.
   * **Data Integration:** Kafka will be used. SITA/APS will publish data events; Nice will consume them.

**Segment 4: Risk Assessment, Watchlists & Data Scope (Approx. 14:05 - 23:34)**

1. **Topic / Feature Discussed**
   * Risk Assessment Process (Who does what? APS vs. Nice)
   * Watchlist Handling (Internal APS vs. External Govt/Nice)
   * Data Attributes and Scope (What data is sent?)
   * PNR Message Correlation
2. **Client Requirements**
   * Nice needs to perform risk assessment.
   * During APP (check-in), APS needs to call an external system (Nice/Govt DB) to check for suspects/risks.
   * Need clarity on whether APS sends its own risk score/assessment results to Nice.
   * Need a comprehensive list of data attributes available at each stage (PNR, APB, DC API, DCR), including optional fields like credit card details.
   * Need PNR messages to be linkable across updates.
3. **To-Do List / Action Items**
   * Nice team needs to integrate with the external government database for watchlist checks during APP processing. [Implied from 14:21-14:36]
   * A separate discussion is needed for the "risk assessment type" topic. [14:44-14:48]
   * SITA/APS team (Speaker B/D) to provide a list/interface definition of all data attributes sent at each stage. [Promised 23:13-23:33]
4. **Clarifications & Key Assumptions**
   * **APP Check:** APS calls the external Nice/Govt database for watchlist check during APP. APS itself doesn't hold the authoritative list but can create internal lists. [14:21-14:44]
   * **APS Internal Assessment:** APS *does* perform checks against its *own internal* watchlists/profiles for PNR, APB, DC API, DCR data feeds *before* sending to Nice. [15:50-16:03]
   * **Data Sent to Nice:** SITA/APS sends *raw passenger data* to Nice. It does *not* currently send its internal risk score or indicate if a passenger hit an internal APS watchlist. [21:46-21:51, 22:34-22:53]
   * **Risk Assessment in Nice:** Nice performs its own risk assessment based on the raw data received. [Implied]
   * **Watchlist Source:** The primary/authoritative suspect list resides *outside* APS (assumed with Nice/Govt). APS may hold internal lists/profiles. [23:36-23:51]
   * **PNR Correlation:** PNR messages have a unique identifier (booking reference number) allowing updates to be tied together. [24:28-24:35]
   * **Identity Challenge:** Identifying passengers uniquely is hard due to optional/missing data (like travel docs early on, payment details). Leverage name, characteristics. [15:14-15:23]

**Segment 5: Harmonizing Decisions, Architecture & Data Integration Details (Approx. 23:34 - 39:10)**

1. **Topic / Feature Discussed**
   * Reconciling APS internal checks vs. Nice checks ("Two Decision Points")
   * System Architecture: Target module in Nice for data, BOC interaction
   * Data Flow Details: Kafka interaction with Nice DB/Modules
   * Real-time vs. Batch processing architecture
   * Nice-side Unique Person ID generation
   * Data Archiving
2. **Client Requirements**
   * Need a clear strategy to handle potential overlap or conflict between APS internal risk rules/flags and Nice's risk assessment.
   * Need data delivered to the correct module within the Nice system (IPC, Security Module, etc.).
   * Need a way for Border Operations Center (BOC) users to view data, receive alerts, and make decisions.
   * Need a reliable mechanism for data updates from SITA/APS (via Kafka) to trigger processing within Nice.
   * Nice system must generate a unique ID per *person*, not just per booking.
   * Data must be archived for one year.
3. **To-Do List / Action Items**
   * **Decision:** Decide whether Nice will rely *only* on raw data from APS or if APS internal assessment results/flags are needed/will be provided. [Ongoing discussion, 29:58-30:24] Speaker B suggests Nice takes all data and makes decisions initially for simplicity [27:02-27:28, 31:12-31:40].
   * **Architecture:** Define the specific target module/interface within Nice receiving Kafka data from APS. [31:46-32:48]
   * **Architecture:** Clarify and design the Kafka data flow *within* Nice (e.g., Kafka -> DB -> Kafka trigger -> Processing Modules like IE). [33:07-33:25, 36:18-36:48]
   * **Architecture:** Design BOC user interface and workflow for monitoring, alerts, and decision-making based on data and assessments. [34:27-35:01]
   * **Development:** Nice team to implement entity resolution logic to create unique person IDs. [38:25-39:02]
   * **Architecture:** Ensure Nice architecture handles both real-time (APP) and batch (PNR, DCS, Manifest) data streams appropriately. [37:23-38:22]
4. **Clarifications & Key Assumptions**
   * **Decision Overlap:** Current plan has potential for two sets of rules (APS internal, Nice external). Strategy needs definition.
   * **Target Module:** Unclear which Nice module (IPC? Security?) should receive the data. Highest possibility seems IPC [32:41-32:48]. Data needs to be centrally available in Nice.
   * **BOC Interaction:** BOC monitors passengers [34:27]. If APS gets a "hit" response from Nice (during APP), BOC is contacted [34:44-34:52]. BOC users need to query Nice for details [34:52-35:01]. UI needed in Nice [35:54-36:02].
   * **Kafka Trigger:** Concern raised that if SITA/APS writes directly to a Nice DB, downstream Nice processing might not be triggered. Using Kafka events for data delivery to Nice processing modules is preferred. [36:18-36:41]
   * **Unique ID:** SITA/APS provides unique *booking* ID. Nice must create unique *person* ID via entity resolution. [38:25-39:02]
   * **Archiving:** One-year data archiving required. [39:32-39:38]
   * **Storage:** Travel data storage is limited. [39:29-39:32]
   * **Scoring Timing:** Nice needs unique ID *before* it can perform scoring/analysis. [38:25-38:35] The 72hr window for PNR provides analysis time [59:04-59:12].

**Segment 6: High-Tech System, Visa, Timeouts & Data Volume (Approx. 39:10 - 53:42)**

1. **Topic / Feature Discussed**
   * Integration with external "High Tech" government system
   * Handling of Visa information
   * APP Check-in Response Timeout mechanism
   * Data Volume Estimation
   * Entity Resolution Difficulty
2. **Client Requirements**
   * Need to interface with another "high tech" system (details unclear).
   * Need clarity on how Visa data is sourced and used in the process.
   * Require a defined timeout for the APP check-in response from Nice/Govt.
   * Require defined system behaviour upon timeout.
   * Need confirmation of expected data volumes.
3. **To-Do List / Action Items**
   * Clarify the architecture and interaction model with the "high tech" system (is it data source, target, peer?). [40:09-40:31]
   * SITA/APS team (Speaker D) to share presentation slides (non-sensitive parts). [Requested 40:45-40:52]
   * Clarify the process and data flow for Visa information and checks. [42:16-44:04]
   * Define and agree on the specific APP response timeout value (e.g., 10 seconds suggested). [46:46-46:50, 47:47-47:58]
   * Define and implement the default action within SITA/APS if the Nice/Govt response times out. [48:36-48:48]
   * SITA/APS team needs to implement the timeout mechanism for the call to Nice/Govt. [Implied]
   * Nice team to develop/refine entity resolution logic, acknowledging its difficulty. [53:01-53:36]
4. **Clarifications & Key Assumptions**
   * **High Tech System:** This seems to be another government system outside the SITA/APS <> Nice flow. It updates its own database and may inform Nice separately. Its data likely won't flow via SITA/APS. [40:09-40:31] Needs architectural consideration.
   * **Visa Data:** Process is unclear. May be separate from booking flow. Requirement for visa check might exist [43:44]. Submitting ticket for visa is current practice but verification is hard [43:49-43:58]. Might not be mandatory [43:58-44:02]. Not a two-way flow via APS [42:43].
   * **APP Timeout:** A timeout (e.g., 10 seconds) is required for the Nice/Govt response during check-in. [46:46, 47:47]
   * **Timeout Behavior:** If no response within timeout, default is likely "Okay to board" based on document checks [48:36-48:48]. If Nice responds "No Board" after timeout, requires handling (potentially at gate). [Implied]
   * **Data Volume:** Approx. 6000 international transactions per hour (average). [51:52-52:06]
   * **Entity Resolution:** Acknowledged as a significant challenge for the Nice team due to data variations. Requires advanced techniques (e.g., Fazi Logic). [53:01-53:36]

**Segment 7: Final Summary, Documentation, Risk Scoring Config & Next Steps (Approx. 53:42 - End)**

1. **Topic / Feature Discussed**
   * Documentation Requirements (Attributes, Samples)
   * Key Challenges Recap (Entity Resolution)
   * Risk Scoring Configuration Responsibility
   * Risk Scoring Approach (Human Configured)
   * Integration with Jabatan Laut (Marine Dept)
   * Administrative Tasks (NDA, Attendance)
2. **Client Requirements**
   * Need documentation from SITA/APS detailing data attributes at each stage, including samples (JSON format mentioned).
   * Need clarity on who configures the risk scoring rules.
   * Need to address integration with Jabatan Laut.
3. **To-Do List / Action Items**
   * SITA/APS team (Speaker E) to provide Interface Control Document (ICD) or Word Doc with attributes, plus 3 JSON file samples. [53:50-54:13, 61:23-61:35]
   * SITA/APS team (Speaker E) will reach out separately for further communication. [61:37-61:41]
   * Nice team (Speaker A) / Joint effort: Address the main challenge of entity resolution. [54:46-54:58]
   * Nice team / Joint effort: Address security requirements. [54:58-55:03]
   * Need a separate session/plan to discuss and manage integration with Jabatan Laut. [66:55-67:40]
   * Attendees to complete and submit attendance list and NDA forms provided by Speaker C. [68:30-69:26]
   * Clarify PNR processing strategy (analyze within 72h window before check-in). [59:04-59:18]
4. **Clarifications & Key Assumptions**
   * **Documentation:** SITA/APS will provide attribute documentation and JSON samples.
   * **Entity Resolution:** Reconfirmed as a primary challenge for the Nice side.
   * **Risk Scoring Config:** Human government users (GM side) are responsible for defining the risk rules. [61:57-62:12] Configuration might be implemented by APS team based on GM user definition.
   * **Risk Scoring Nature:** Based on human-configured business rules, not statistical models. [60:55-61:07]
   * **Data Imbalance:** Acknowledged that missing optional data (e.g., airlines not providing PNR) creates uncertainty. [61:14-61:21]
   * **Jabatan Laut:** This is a separate integration requiring dedicated discussion/planning.
   * **Immigration Profiling:** Speaker C mentioned using PNR data for pattern analysis in immigration (e.g., identifying potential immigrant seeking behaviour based on demographics, travel patterns) - this is an example use case for Nice analysis. [58:42-60:25]
   * **PNR Fields:** Many fields in PNR are optional based on IATA standards; only enforced if provided. [60:37-60:47]
   * **Future Risk Score Sharing:** Speaker E noted that in the future, Nice *might* need the risk score from APS, suggesting potential future scope change. [60:47-60:55]