Organizational Data Model

- **User** (sys_user)
  - **Is member of** (sys_user_group)
  - **Has roles** (sys_user_role)
  - **Manager**

- **Company** (core_company)
  - **Parent**

- **Location** (cmn_location)
  - **Parent**
  - **Cost Center** (cmn_cost_center)
    - **Parent**
  - **Department** (cmn_department)
    - **Parent**

- **Building** (cmn_building)
  - **Parent**

- **Stockroom** (alm_stockroom)
  - **Parent**

- **Group** (sys_user_group)
  - **Has roles** (sys_group_has_role)
  - **Types (examples):**
    - Support (ActionCentre)
    - Access (DL, Security)
    - Catalog: Approval
    - Change (CAB)
Skills Management Data Model

- **User** (sys_user)
  - Has Skills (sys_user_has_skill)
  - Is member of (sys_user_grmember)

- **Group** (sys_user_group)
  - Has Skills (sys_group_has_skill)

- **Skills** (cmn_skill)
  - Contained Skills (cmn_skill_contains)
  - Skills Required for Model Maintenance (cmn_m2m_skill_model)

- **Task** (task)
  - Tasks can be assigned based on required skills

- **Product Model** (cmdb_model)
Planned Task Data Model Extensions

- Actual Cost
- Actual Duration
- Actual Effort
- Budget Cost
- Critical Path
- Estimated Cost
- HTML Description
- Level
- Percent Complete
- Planned Duration
- Planned Effort
- Planned End Date
- Planned start date
- Remaining Duration
- Remaining Effort
- Rollup
- Subtree root
- Time Constraint
- Top Task
- WBS
- WBS Order
2. How different Task Types Reference CMDB

Task
- Opened by
- Assigned to
- Assignment Group
- Closed by
- Location
- Company
- Configuration Item

Incident
- Categorization
  - Impact Services
    - Affected CI

Problem
- Problem Root Cause Analysis
  - Affected CI

Change
- Change Impact Assessment
  - Impact Services
    - Affected CI

Approval Request

Request
- Requested Item
  - Business Service
    - Part of
      - Configuration Item
        - cmdb_ci

KB submission
- Knowledge Article
  - kb_knowledge
    - Related to
      - Configuration Item
        - cmdb_ci

Planned Task
- Project
  - pm_project
- Product
  - rm_product
- Release
  - rm_release

Catalog Task
- Business Service
  - cmdb_ci

Configuration Item
- cmdb_ci

Application
- cmdb_ci_apl
Incident Management Data Model

- User (Caller): sys_user
- Location: cmn_location
- Group: sys_group
- Business Service: cmdb_ci_service
- Configuration Item: cmdb_ci
- Metric Definition: metric_definition
- Metric Instance: metric_instance
- Task SLA: task_sla
- Task SLA: task_sla
- Configuration Item: cmdb_ci
- Affected CI: task_ci
- Categorization
- Resolved by
- Caused by Change

2a
2b Problem Management Data Model
Change Request

- Change Request
- IMAC

Incident Management
- Incident
- Issue

Problem Management
- Problem Task
- Problem Analysis (KT Plugin)

Request Fulfillment
- Catalog Task

Field Service Management
- Work Order
- Work Order Task

Release Management
- Implemented by Release
- Release Phase
- Feature (Release)
- SDLC Release (SDLC)
- Enhancement (SDLC)
- Defect (SDLC)
- Documentation Task (SDLC)
- Testing Task (SDLC)

Project Management
- Project
- Project Task
- Project Task Link

Demand Management
- Requirement
- Decision
- Demand

Other task tables linked to Change Request

2c Change Management Data Model

User
- sys_user

Location
- cmn_location

Group
- sys_group

Assignment Group

Requested by

Categorization

Configuration Item
- cmdb_ci

Configuration Item
- cmdb_ci

Business Service
- cmdb_ci_service

Other m2m Affected record links

- Affected Groups
- Affected Locations
- Affected Cost Centers

Conflicts
- conflict

Affected CI
- task_ci

Impacted Services/CIs
- task_cmdb_ci_service

Approvers
- sysapproval_approver

Problem
- problem

Release
- rm_release

Change Phase
- change_phase

Change Task
- change_task

Incident
- incident

Other m2m Affected record links

- Affected Groups
- Affected Locations
- Affected Cost Centers
Event Management Data Model

- **Source** (em_event_source)
- **Registered Node** (xxx)
- **Resource**
  - The resource on the node that generates the event, such as RAM, disk, or database server.
- **Event** (em_event)
  - Events created from monitoring tools
  - **Event Type** (em_event_type)
  - **Event Filters** (em_event_filter)
  - **Source** (em_event_source)
- **Configuration Item** (cmdb_ci)
- **Active Alert** (em_alert)
  - Create Alert to CMDB Service
  - **Alert Rule** (em_alert_rule)
  - **Alert to CMDB Service** (xxx)
  - **Incident** (incident)
  - **Affected Services**
  - The source that generated the event, such as Icinga or Nagios.
1. Order & Receive
2. Configure
3. Install
   *When closed it creates a CI*
Service Catalog Data Model Extensions

- Configuration Item: cmdb_ci
- Product Model: cmdb_model
- Business Service: cmdb_ci_service
- Service Offering: service_offering
- Task: task
  - Request: sc_request
  - Requested Item: sc_request_item
  - Approval Group: sysapproval_group
  - Approval (user): sysapproval_approver
  - Catalog Task: sc_task
- Hardware Model: cmdb_hardware_product_model
- Hardware Catalog: pc_hardware_cat_item
- Software Catalog: pc_product_cat_item
- Product Catalog Item: pc_product_cat_item
- Catalog Item: sc_cat_item
- Vendor Catalog Item: pc_vendor_cat_item
- Catalog Item Category: sc_cat_item_category
- Application File: sys_metadata
- Record Producer: sc_cat_item_producer
- Catalog Item: sc_cat_item
- Content Item: sc_cat_item_content
- Wizard Launcher: sc_cat_item_wizard
- Order Guide: sc_cat_item_guide
- Business Service Catalog Entry: sc_cat_item_service
4a-2 CMDB Printer & Network Gear Data Model Extensions (Fuji)
CMDB Hostname Data Model Extensions

Configuration Item (cmdb_ci)

Network Hostname (cmdb_ci_network_host)
- Switch Hostname (cmdb_ci_switch_host)
- Router Hostname (cmdb_ci_router_host)
- Hub Hostname (cmdb_ci_hub_host)
- Wireless Access Point Hostname (cmdb_ci_wap_host)
- Firewall Hostname (cmdb_ci_firewall_host)
- Modem Hostname (cmdb_ci_modem_host)
- UPS Hostname (cmdb_ci_ups_host)
- Network Probe Hostname (cmdb_ci_nw_probe_host)
- CSU/DSU Hostname (cmdb_ci_csu_dsu_host)
- Access Hostname (cmdb_ci_access_host)
- Content Engine Hostname (cmdb_ci_ce_host)
- CSS Hostname (cmdb_ci_css_host)

Network Appliance Hostname (cmdb_ci_ip_device)
- Windows Hostname (cmdb_ci_windows_host)
- LINUX Hostname (cmdb_ci_linux_host)
- UNIX Hostname (cmdb_ci_unix_host)
- Z/OS Hostname (cmdb_ci_z_os_host)

Server Hostname (cmdb_ci_server_hostname)
- VMWare Hostname (cmdb_vmware_host)
- SUN UNIX Hostname (cmdb_ci_sun_unix_host)
- HP UNIX Hostname (cmdb_ci_hp_unix_host)
- AIX Hostname (cmdb_ci_ibm_aix_host)

IP Address to DNS Name (cmdb_ip_address_dns_name)
CMDB Physical Infrastructure Data Model Extensions

- **Configuration Item (cmdb_ci)**
  - **Facility Hardware (cmdb_ci_facility_hardware)**
    - **Building (cmdb_ci_building)**
    - **HVAC Equipment (cmdb_ci_hvac)**
  - **Power Equipment (cmdb_ci_power_eq)**
    - **Power Generator (cmdb_ci_generator)**
    - **Surge Suppression Equipment (cmdb_ci_surge)**
  - **Tower Equipment (cmdb_ci_tower_eq)**
    - **Automatic Transfer Switch (cmdb_ci_ats)**
    - **Direct Current Plant Equipment (cmdb_ci_dc_plant)**
    - **Uninterruptible Power Supply (cmdb_ci_ups)**
  - **Fuel Tank (cmdb_ci_fuel_tank)**
  - **Data Center (cmdb_ci_datacenter)**
    - **Computer Room (cmdb_ci_computer_room)**
  - **Data Center Zone (cmdb_ci_zone)**
  - **Rack (cmdb_ci_rack)**
  - **Tower (cmdb_ci_tower)**
    - **Tower Beacon (cmdb_ci_tower_beacon)**
    - **Tower Light Controller (cmdb_ci_tower_light)**
  - **Outlet (cmdb_ci_pdu)**
    - **UPS Output (cmdb_ci_ups_output)**
    - **UPS Bypass (cmdb_ci_ups_bypass)**
    - **UPS Alarm (cmdb_ci_ups_alarm)**
  - **Circuit (cmdb_ci_circuit)**
    - **UPS Input (cmdb_ci_ups_input)**
With the Aspen version and earlier the CMDB was used for both CI and asset information. This was accomplished by having two views of the same record with different attributes (and related lists) displayed.

The Contract table had also been extended to support three different types of contracts. This has been deprecated in favour of using the contract model feature.
Hardware Asset Data Model

- Model Category
  - cmdb_model_category

- Hardware Model
  - cmdb_hardware_product_model

- Manufacturer
  - core_company

- Depreciation
  - cmdb_depreciation

- Contract Model
  - cmdb_contract_product_model

- Contract
  - ast_contract

- Hardware
  - cmdb_hardware

- Asset Covered
  - cmdb_m2m_contract_asset

- Fixed Asset to Asset
  - cmdb_m2m_fixed_asset_to_asset

- Asset Entitlement
  - cmdb_entitlement_asset

- Licensed by
  - cmdb_license

- Software License
  - cmdb_license

- Assigned to
  - cmdb_cost_center

- Department
  - cmdb_department

- User
  - sys_user

- Assigned to
  - cmdb_location

- Location
  - cmdb_location

- Stockroom
  - cmdb_stockroom

- Configuration Item
  - cmdb_ci

- Allocated to
  - cmdb_expense_line

- Expense Lines
  - cmdb_expense_line

- 4 of the 28 synchronized fields between asset and CI

- CMDB CI Class

- CMDB Model Category

- CMDB Hardware Model

- CMDB Department

- CMDB User

- CMDB Stockroom

- CMDB Location

- CMDB Configuration Item

- CMDB Expense Lines
2 of the 28 synchronized fields between asset and CI
Software Asset Data Model - simplified

For purpose of import or integration

**Three Key Compliance Questions for SAM**
1) How many licenses did I purchase?
   - quantity of each purchase
   - total quantity of all purchases under contract

2) How many are deployed? (requires discovery tool)

3) To whom have we allocated the license purchased?

- Rights (Number of entitlements to be granted by this license)
- PO number, vendor, purchase date for this license
- Cost for the total number of rights for this license

- License quantity entitled (Number of license rights granted by the contract, when applicable)
Logical Contract – Asset Relationship

Parent Contract

Asset Covered

Asset

Contract

Contract (Software License)

Contract (Maintenance)

Contract (Subscription)

Contract (Service)

Contract (Lease)

Asset

Asset (Software License)

Asset (Software License)

Asset (Software License)

Asset (Hardware)

Asset (Hardware)

Asset (Hardware)

Asset (Hardware)

Software License only

Software License With Subscription contract

Software License With Maintenance

Purchased Hardware Asset only

Purchased Hardware Asset With Maintenance

Leased Hardware Asset

Leased Hardware Asset With Maintenance

Functional Contract – Asset Relationship

Providing examples of different combinations
A rate is defined to a specific task type (ie routine change request costs $150)

- **Distribution Cost Rule**: Generates expense lines for each CI
  - **Distribution Cost**: Capital Cost (one time)
  - **Configuration Item**: Collection of cost related entries associated to a group of configuration items

- **Expense Lines**: Recurring cost generated by CI Rate Card
  - **Expense Allocation Rule**: Snapshot of current expenses for a business service, by cost type

- **Business Service**: Depends on
  - **Relationship Path**: Based on CMDB Relationship aggregation

- **Allocation Units**: Allocates capacity and usage of a business service

- **Expense Allocation Rule**: Defines how to process expense lines to assign them to a business entity (ie user, group, or department)

- **Expense Allocation**: Generates expense lines for each CI
  - **Distribution Units**: # of units to associate to CI linked to the CI Rate Card (ie. bandwidth, power, support)
  - **Contract Rate Card**: Costs can be allocated evenly based on all assets covered, or proportionally based on cost of each asset

- **Contract**: Costs can be allocated evenly based on all assets covered, or proportionally based on cost of each asset

- **Asset Covered**: Asset Covered

- **Task**: Defines which CIs to distribute a distribution cost to

- **Cost Center**: Associates a budget to one or more cost centers

- **Budget**: Track planned, actual, and projected expense allocations
IT Cost Management Data Model Rate Extensions & Expense Line Relationships
Knowledge Management Data Model

User Criteria
- user_criteria

Roles
- sys_user_role

User
- sys_user

Document
- dms_document

Who Can Read Knowledge Base
- kb_uc_can_read_kb

Who Cannot Read Knowledge Base
- kb_uc_cannot_read_kb

Who Can Contribute to Knowledge Base
- kb_uc_can_contribute_kb

Who Cannot Contribute to Knowledge Base
- kb_uc_cannot_contribute_kb

Knowledge Base
- kb_kb

Category
- kb_category

Author

Knowledge Article
- kb_kb

Content Item
- sc_cat_item_content

Knowledge Feedback
- kb_kb_feedback

Knowledge Use
- kb_kb_use

CMDB CI
- cmdb_ci

Configuration Item
- m2m_kb_ci

Knowledge Applied to Tasks
- m2m_kb_task

Task
- task

KB Submission
- kb_kb

Task
- task

Source

Creates

Creates (in KB Submission Workflow)

Task
- task

Knowledge Base
- kb_kb

Knowledge Article
- kb_kb

Knowledge Record
- m2m_document_kb

Knowledge Management Data Model Extensions

Knowledge Article
- kb_kb

Policy
- grc_policy

Task
- task

KB Submission
- kb_kb

Knowledge Management Data Model Extensions

Knowledge Article
- kb_kb

Policy
- grc_policy

Task
- task

KB Submission
- kb_kb
Structured Problem Analysis (powered by Kepner-Tregoe)

Specifying Problem

Specify Problem

Source

Problem Analysis

Distinction & Change

Cause

Confirmation method

WHAT

WHAT

WHAT

WHAT

WHERE

WHERE

WHERE

WHERE

WHEN

WHEN

WHEN

WHEN

EXTENTS

EXTENTS

EXTENTS

EXTENTS

What Object

Where Geographically

Where On Object

When First

When Since

When In Life Cycle

How Many Objects

How Many Deviations

What Is The Size

What Is The Trend

kt_01_what_object

kt_02_where_geographically

kt_04_where_object

kt_05_when_first

kt_06_when_since

kt_07_whenLifecycle

kt_08_extent_objects

kt_09_extent_size

kt_10_extent_deviations

kt_11_extent_trend
Expense is created based on the fixed fee based on task rate card or expense is created based on the workers bill rate or fixed fee based on task rate card.

A rate is defined to a specific task type (ie routine move task costs $150).

Expense is created based on the fixed fee based on task rate card.
Work Management Group Data Model

- **Group (Initiator)**
  - sys_user_group

- **Group (Qualifier)**
  - sys_user_group

- **Group (Dispatcher)**
  - sys_user_group

- **Location**
  - cmn_location

- **Department**
  - cmn_department

- **User**
  - sys_user

- **Skill**
  - cmn_skill

- **Roles**
  - sys_user_role

- **Has Skills**
  - (sys_group_has_skill)
  - (sys_user_has_skill)

- **Reports to**
  - (sys_user_group)
  - (sys_user_has_role)

- **Dispatches Work Group**
  - (wm_m2m_group_dependency)

- **Covered by Dispatch Group**

- **Has roles**
  - (sys_group_has_role)

- **Is member of**
  - (sys_user_group)

- **Located Covered**

- **Contained Skills**
  - (cmn_skill_contains)
Finance Service Automation Data Model

- **Finance Request**
  - **Finance Task Template**
  - **Finance Request Flow**
  - **Model Knowledges**
  - **Knowledge Article**
  - **Part Requirement**
  - **Product Model**
  - **Expense Line**
  - **Task Affected CIs**
  - **Affected CIs**
  - **Service Order Task Dependencies**
  - **Sibling Tasks**
  - **Task SLA**
  - **Configuration Item**
  - **Service Order Task Contracts**
  - **Service Management Incidents**
  - **Contract**

- **Company**
  - **User**
  - **Location**
  - **Department**

The diagram illustrates the relationships and data points involved in a finance service automation process, including model knowledges, task templates, request flows, and various entities related to finance tasks and contracts.
Sales Force Automation Data Model (nashCOPS)

- **Account**
  - sales_account
- **Opportunity**
  - sales_opportunity
- **Contract**
  - sales_contract
- **Activity**
  - sales_activity
- **Invoice**
  - u_sales_invoice
- **Project**
  - pm_project
- **Group**
  - sys_user
  - sys_user_group
- **Product**
  - sales_product
- **Line Item**
  - sales_opportunity_item
- **Task Time**
  - task_time_worked
- **User**
  - sys_user

**Product Category**
- Services

**Type**
- Professional Services
- Managed Services
Discovery Tables Extensions

- **Classifications**
  - `discovery_classy`
    - **Process Classification**
      - `discovery_classy_process`
    - **Windows Classification**
      - `discovery_classy_windows`
    - **UNIX Classification**
      - `discovery_classy_unix`
    - **SNMP Classification**
      - `discovery_classy_snmp`
    - **Scan Results CI Classifier**
      - `discovery_classy_scan`
    - **CIM Classification**
      - `discovery_classy_cim`
    - **SNMP OID Classification**
      - `discovery_classy_snmp_oid`
    - **Application Classification**
      - `discovery_classy_appl`
    - **Scan Results Application**
      - `discovery_classy_scan_app`
  
- **Import Export Map**
  - `sys_impex_map`
  
- **Sensor**
  - `discovery_sensor`
  
- **MultiSensor**
  - `discovery_sensor_multi`
  
- **Probe**
  - `discovery_probes`
    - **WMI Probe**
      - `discovery_probes_wmi`
    - **CIM Probe**
      - `discovery_probes_cim`
    - **MultiProbe**
      - `discovery_probes_multi`
    - **SNMP Probe**
      - `discovery_probes_snmp`
  
- **Scheduled Job**
  - `sysauto`
  
- **Scheduled Script Execution**
  - `sysauto_script`
  
- **Discovery Log**
  - `discovery_log`
  
- **Log**
  - `syslog`
  
- **Discovery Schedule**
  - `discovery_schedule`
A rate is defined to a specific task type (i.e., routine move) costs $150.

Expense is created based on the fixed fee based on task rate card.