APPENDIX F – INTERFACE REQUIREMENTS

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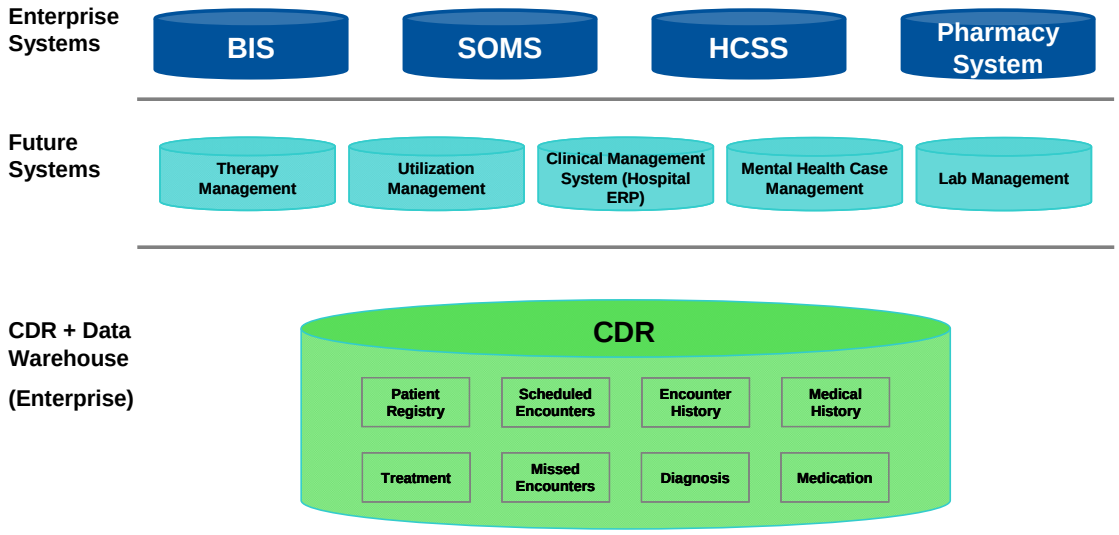
1.0 General Interface Requirements

1.1 High Level Integration Architecture

In the future, prison health care will use information technology in various ways to support the provision of care to offenders. Different health care settings are likely to have multiple systems to create treatment plans, track progress, store lab reports, archive radiology images etc. In addition to these clinical systems, enterprise wide systems such as SOMS, BIS, HCSS and the Pharmacy System will provide functionality across all institutions. The Clinical Data Repository (CDR) will include electronic medical records for all offenders and a data warehouse containing all the data needed for reporting. Figure 4 provides a conceptual view of the future systems.

Figure 1. Conceptual view of Prison Health Care Information Technology Systems



HCSS will import the offender schedule from SOMS and schedule around the existing events. From a health care scheduling perspective, these imported events will be considered as initial constraints for HCSS. However, if a mandated deadline for health care cannot be met, health care schedulers, working under medical direction, will be able to reschedule the offender commitment according to business rules and notify custody. This process will remain manual and is not expected to be automated in the future.

As soon as the offender enters the California prison system, offender demographics are imported into the HCSS from SOMS and health care appointments will be scheduled. Any changes to offender schedule, location, security status or other information that may impact the provision of health care shall be updated in HCSS on a daily basis.

HCSS will import shift schedules from BIS, as well as information on available rooms and facilities. HCSS local administrators will be able to assign blocks of available time for scheduling appointments for an individual clinic, clinician or other care provider. It is assumed that a block of time that is available for scheduling in HCSS will include all staff, facilities and equipment necessary to conduct the exam. Asset management and the scheduling of equipment within facilities (e.g. hospital bed management) are not in the scope of the HCSS.

HCSS schedulers will schedule offender appointments to the blocks of time assigned by the administrators. This can either be done by assigning a group of offenders to a block of time or by scheduling an offender to a particular time slot.

As an enterprise wide scheduling system, HCSS will allow for centralized scheduling. Requests for appointments can be assigned to a scheduler based on offender location, type of appointment needed or clinic. In addition, the system will allow a case manager or psychiatrist to be assigned to an offender. This will facilitate and ensure the continuity of offender care, since scheduling will no longer be limited to the location of the offender.

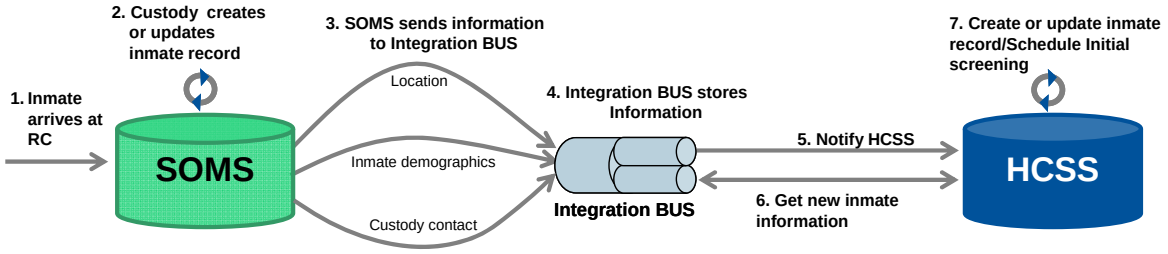
The Clinical Data Repository (CDR) will include a data warehouse. Scheduled appointments, encounter history and disposition will be transferred from HCSS to CDR on a regular basis.

1.2 Interface type

Exchange of data between the HCSS and any other systems will occur through the Oracle HTB integration bus. The interface shall to support HL7 v2.x standards. It is anticipated that, after an initial loading of data, the interface will be message-based.

Figure 1 below illustrates at a conceptual level the exchange of data between SOMS and HCSS.

Figure 2. Conceptual view of data exchange between SOMS and HCSS



1.3 Interface complexity

The following table describes the different categories for interface complexity.

Table 1. Interface Complexity Definition

Complexity	Definition
Simple	Two applications (fewer than 50 data elements/ fields) and flat message structure/layout.
	One source - One target application.
	Minimal data stored and manipulated in the integration layer.
	No look-up tables in the integration layers.
	No business rules in the integration layer.
Moderate	Two or more applications, fewer than 50 data elements (fields) or hierarchical message structure/layouts.
	Typically one or more sources for back-end and single source for target end.
	Some business rules (edits) in the integration layer - Maybe some lookup and translation tables but not extensive.

Complex	Multiple applications (more than 2 source system), more than 50 data elements (fields). Involves the transformation of data that must move from one hierarchical format to another hierarchical format.
	Significant set of business rules and edits in the Integration layer including extensive lookup tables and validation rules.
	Data stored in Integration layer and multiple passes through the data to analyze and transform the data and organize data.

2.0 Interface with SOMS

2.1 General Assumptions

The integration requirements for the Health Care Scheduling System (HCSS) have been developed based on the following assumptions:

- SOMS will maintain all offender information (demographics, CDCR ID, location, security level, disability status etc.)
- SOMS maintains the offender master schedule – not necessarily the HCSS schedule
- HCSS will schedule health care appointments around other offender commitments of equal or higher priority
  - There will be certain events that will not be considered scheduling constraints for HCSS
  - SOMS will provide HCSS with imported events, which will be considered as initial constraints for HCSS. However, if a mandated deadline for health care cannot be met, health care schedulers, working under medical direction, will be able to reschedule the offender commitment and notify custody following business rules
- Scheduling conflicts between HCSS and SOMS will be resolved manually
- For each offender, there will be an assigned point of contact who is responsible for resolving scheduling conflicts
- Offenders will be assigned single unique identifier
- Ducats will be generated on daily basis, 24 hours in advance
- System may have capability to generate ducats more frequently

2.2 Incoming data from SOMS

2.2.1 Offender arrives at Reception Center (RC) (new or returning offender)

The Strategic Offender Management System (SOMS) will be updated with new offender arrivals and a unique identifier will be assigned to each offender prior to arrival or upon arrival at the RC. The Health Care Scheduling System (HCSS) will be updated with basic offender information and schedule a “Bus Screen” appointment for each offender arrival.

Table 2. Offender demographics

Application	SOMS
Outgoing Data/Information	None
Incoming Data/Information	■ Offender Demographics (Name, offender ID, alias, DOB, gender, language) ■ Offender Location (Reception Center, Yard, Housing Unit) ■ Offender Classification ■ Case Worker (location, phone number, email) ■ Counselor (location, phone number, email) ■ Date of arrival (day, month, year, time) ■ Release Date (planned, last effective, last planned release date) ■ Health Status (medical, dental, mental health, TB status, HIV status) ■ Disability Status/Effective Communication (DDP Code, TABE Score, DPP Code, EC Need, Health Care Appliances)
Type of Application Interface	■ Real time ■ Need capability to manually open screen in SOMS and import offender information at least daily ■ Message based
Technical Requirements	■ TBD
Volume	Several hundred transactions per day
Interface Complexity	Simple

2.2.2 Offender movement

When an offender moves from Reception Center to a prison, from one prison to another or within an institution, HCSS must be updated so that scheduled appointments can be suspended at the sending institution and the receiving institution can be notified to reschedule the appointments.

Table 3. Offender movement

Application	SOMS
Outgoing Data/Information	None
Incoming Data/Information	■ Offender ID ■ Transfer Date (day, month, year, time) ■ Destination (institution, yard, housing unit) ■ Destination Case Worker (location, phone number, email) ■ Destination Counselor (location, phone number, email)
Type of Application Interface	■ Daily ■ Message based
Technical Requirements	■ TBD
Volume	Several thousand transactions per day

Interface Complexity	Simple

2.2.3 Offender schedule

Offender commitments that are not related to health care are entered in SOMS. Health care schedulers will be able to see these times as initial constraints for HCSS. However, if a mandated deadline for health care cannot be met, health care schedulers, working under medical direction, will be able to reschedule the offender commitment and notify custody following business rules.

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Table 4. Offender schedule

Application	SOMS
Outgoing Data/Information	None
Incoming Data/Information	■ Date and time of event (day, month, year, time) ■ Duration ■ Event type (e.g. work, education, visitation, etc.) ■ Event location (on-site, off-site)
Type of Application Interface	■ At a minimum daily ■ Message based
Technical Requirements	■ TBD
Volume	Several thousand transactions per day
Interface Complexity	Simple

2.2.4 Change of security level

Changing security can impact the time required to conduct an appointment. HCSS needs up to date information on an offender's security level to appropriately plan and schedule appointments.

Table 5. Offender security classification

Application	SOMS
Outgoing Data/Information	None
Incoming Data/Information	■ Security Level (Classification)
Type of Application Interface	■ At a minimum daily ■ Message based
Technical Requirements	■ TBD
Volume	Several hundred transactions per day
Interface Complexity	Simple

2.2.5 Change of Offender point of contact

Each offender has an assigned a custody Point of Contact who serves as the primary contact for Health Care schedulers. This information must be up to date in HCSS.

Table 6. Offender security classification

Application	SOMS
Outgoing Data/Information	None
Incoming Data/Information	■ Assigned Case Worker (location, phone number, email) ■ Assigned Counselor (location, phone number, email)
Type of Application Interface	■ At a minimum daily ■ Message based
Technical Requirements	■ TBD
Volume	Several hundred transactions per day
Interface Complexity	Simple

2.2.6 Offender release dates and changes

Release and Parole dates can impact the delivery of health care and trigger pre-release activities. Release and Parole dates in HCSS must be up to date.

Table 7. Offender release dates

Application	SOMS
Outgoing Data/Information	None
Incoming Data/Information	■ Planned Release/Parole Date (day, month, year, time) ■ Release type ■ Parole region ■ Actual Release date (day, month, year, time)
Type of Application Interface	■ At a minimum daily ■ Message based
Technical Requirements	■ TBD
Volume	Several hundred transactions per day
Interface Complexity	Simple

2.2.7 Special Needs information

An offender's health disability status and assistance needs are recorded in SOMS. This information is necessary for Health Care staff to appropriately schedule.

Table 8. Offender special needs information

Application	SOMS

Outgoing Data/Information	None
Incoming Data/Information	■ DDP Code (DPO, DPH, DPV, DPW) ■ TABE Score (Score) ■ DPP Code (Disability Placement Program code) ■ EC Need (EC, SLI) ■ Health Care appliances (Appliance type, duration)
Type of Application Interface	■ At a minimum daily ■ Message based
Technical Requirements	■ TBD
Volume	Several hundred transactions per day
Interface Complexity	Simple

2.2.8 Offender Health Status

An offender's health status is documented on various chronos (CDC form 128) and recorded in SOMS. This information is necessary to schedule the mandatory required appointments.

Table 9. Offender release dates

Application	SOMS
Outgoing Data/Information	None
Incoming Data/Information	■ Medical Status (Chronic Disease) ■ Mental Health Status (Level of Care code) ■ TB Status (Positive/negative) ■ HIV Status (Positive/negative)
Type of Application Interface	■ At a minimum daily ■ Message based
Technical Requirements	■ TBD
Volume	Several thousand transactions per day
Interface Complexity	Simple

2.3 Outgoing Data to SOMS

2.3.1 Communicate Tentative Schedule

Once a Health Care appointment has been tentatively scheduled, it is posted on the offender calendar in SOMS.

Table 10. Communicate Tentative Schedule

Application	SOMS
Outgoing Data/Information	■ Appointment purpose (health care appointment) ■ Priority Code

	■ Appointment time (day, month, year, time) ■ Appointment location (yard, clinic, room, hospital, etc.)
Incoming Data/Information	None
Type of Application Interface	■ At a minimum daily ■ Message based
Technical Requirements	■ TBD
Volume	Several thousand transactions per day
Interface Complexity	Simple

2.3.2 Communicate Ducat List (export finalized schedule)

Once the schedule for Health Care appointments has been finalized (usually within 24 hours of the appointment time), a ducat list is sent to custody.

Table 11. Communicate Ducat List

Application	SOMS
Outgoing Data/Information	■ Appointment description ■ Priority Code ■ Special Assistance requirements ■ Appointment time (day, month, year, time) ■ Location (yard, clinic, room, hospital, etc.) ■ Provider (name, specialty, location)
Incoming Data/Information	None
Type of Application Interface	■ Daily ■ Message based
Technical Requirements	■ TBD
Volume	Several thousand transactions per day
Interface Complexity	Simple

3.0 Interface with BIS

3.1 BIS incoming data

3.1.1 Add, change and delete medical staff

HCSS requires an up to date roster of health care staff (physicians, nurses, clinical staff, etc.) to schedule appointments.

Table 12. Add, change and delete medical staff

Application	BIS
Outgoing	■ Name, demographics, employee ID, DOB, gender, ethnicity

Data/Information	■ Qualification, designation, specialty ■ Certification type, description, expiration ■ Location (institution, yard)
Incoming Data/Information	None
Type of Application Interface	■ Daily ■ Message based
Technical Requirements	■ TBD
Volume	Several thousand transactions per day
Interface Complexity	Simple

3.1.2 Rooms, treatment facilities and fixed assets

HCSS requires an up to date list of schedulable treatment facilities / assets. Fixed assets may act as individual treatment centers (e.g., 2 dental chairs in 1 room). This information will be used by administrators to determine the type and capacity of time slots available for scheduling.

Table 13. Rooms, treatment facilities and fixed assets

Application	BIS
Outgoing Data/Information	■ Facility/asset name, asset type, maximum capacity, availability ■ Location (institution, yard, clinic)
Incoming Data/Information	None
Type of Application Interface	■ Daily ■ Message based
Technical Requirements	■ TBD
Volume	Several thousand transactions per day
Interface Complexity	Simple

3.1.3 External Contractor Information

HCSS will maintain a list of all service providers (based on contracts in BIS/Prodagio). Schedulers will need this information to schedule appointments with external service providers.

Table 14. External Contractor Information

Application	BIS
Outgoing Data/Information	■ Contractor name, demographics, contractor ID, gender, ethnicity ■ Contractor location (street address, state, zip code) ■ Contractor qualifications, designation, specialty ■ Contractor credential type, description, expiration ■ Contract terms and conditions, availability, price, capacity
Incoming Data/Information	None

Type of Application Interface	■ Daily ■ Message based
Technical Requirements	■ TBD
Volume	Several thousand transactions per day
Interface Complexity	Simple

3.1.4 Import shift plan

Shift Plans for Nurses and Registry Nurses will need to be available in HCSS for administrators to assign time blocks available for scheduling.

Table 15. Import shift plan

Application	BIS
Outgoing Data/Information	■ Shift location (institution, yard, clinic) ■ Shift staff demographics, name, employee ID, gender, ethnicity ■ Shift schedule, day, start time, break time, end time, vacation, sick days ■ Staff skills, certifications, competencies
Incoming Data/Information	None
Type of Application Interface	■ Daily ■ Message based
Technical Requirements	■ TBD
Volume	Several thousand transactions per day
Interface Complexity	Simple

4.0 Interface with CDR

4.1 CDR outgoing data

4.1.1 Scheduled Events

HCSS will actively update CDR inmate-patient records of past and future scheduled events.

Table 16. Scheduled Events

Application	CDR
Outgoing Data/Information	■ Inmate-patient, name, offender ID ■ Appointment type, unique appointment ID, location, date, time, mandated deadline ■ Care provider, name, employee ID, location ■ Treatment code
Incoming Data/Information	None

Type of Application Interface	■ Daily ■ Message based
Technical Requirements	■ TBD
Volume	Several thousand transactions per day
Interface Complexity	Simple

4.1.2 Show/No show information

HCSS will actively update CDR inmate-patient records of event attendance.

Table 17. Show / No-show information

Application	CDR
Outgoing Data/Information	■ Appointment ID ■ Offender(s) show/no-show, care provider(s) show/no-show ■ Reason code (missed appt. reason codes)
Incoming Data/Information	None
Type of Application Interface	■ Daily ■ Message based
Technical Requirements	■ TBD
Volume	Several thousand transactions per day
Interface Complexity	Simple

4.1.3 Encounter Disposition

HCSS will actively update CDR inmate-patient records of encounter disposition.

Table 18. Encounter Disposition

Application	CDR
Outgoing Data/Information	■ Inmate-patient, name, offender ID ■ Appointment type, unique appointment ID, location, date, time, mandated deadline ■ Care provider, name, employee ID, location ■ Treatment code ■ DPC code, follow-up, reschedule, new event request
Incoming Data/Information	None
Type of Application Interface	■ Daily ■ Message based
Technical Requirements	■ TBD
Volume	Several thousand transactions per day
Interface Complexity	Simple