



# **G-Cloud 15 Service Description**

## **NHS Identity Management (Including BDS Directory Manager)**



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## 1. **BDS Directory Manager™**

One of the biggest identity management issues for NHS IT teams is the management of joiners, movers and leavers within Active Directory and email messaging platforms.

**BDS Directory Manager** provides direct integration with Electronic Staff Record (ESR) and the Directory Manager web portal to capture identity information that is used to automate handling of joiners, movers and leavers. Through the configuration of business rules, the software makes Active Directory and email account creation, update and expiration as simple as pushing a button.

Directory Manager's 'Core Service' includes:

- ESR integration and web portal account request management
- Active Directory starter, changes and leaver management
- Group membership management
- User home and profile folder management
- Mailbox management for Exchange or NHSmail

## 2. **Benefits of BDS Directory Manager™**

Implementing **BDS Directory Manager™** will enable the organisation to:

- Automatically generate network accounts ready for incoming staff as quickly as possible.
- Systematically create mailboxes in NHSmail or Exchange ensuring new staff have immediate access to email and calendars.
- Populate the local address book with information from ESR to ensure that users can reliably identify and communicate with their colleagues.
- Automatically update email addresses in ESR to allow HR teams communicate effectively and enable self-service features in ESR.
- Automatically populate distribution lists based on work area and job role to help swift dissemination of critical information.
- Streamline the administration of Active Directory removing the need to manually create accounts and consistently apply rules for account naming.
- Obtain staff changes direct from ESR and automatically update the directory to ensure it reflects current assignment details and managing security group membership accordingly.



- Capture staff end dates from ESR to ensure that accounts are expired when staff leave thus improving security and ensuring that purchase of software licences is for active accounts only.
- Provide a robust audit and security over changes to system access to support Information Governance requirements.
- Reduce the cost of directory administration by enabling non-technical staff to review and approve pending changes through the web portal.
- Reduce application administration by integrating provisioning workflows with additional systems and by sending automated email notifications to staff when key events occur such as starters, changes and leaver information.

**BDS Directory Manager™** is a proven solution that dramatically reduces the time required to manage accounts on Active Directory. It will increase directory data quality leading to enhanced security and information governance. The whole organisation will benefit from the improved accuracy and accessibility of staff details.

In a recent survey of sites where BDS Directory Manager is established, the time saved in managing Active Directory was quantified. This revealed, when compared with historic resourcing levels, that BDS Directory Manager had reduced system administration time by the equivalent of 1.25 full-time administrators per 5,000 accounts managed.

**BDS Directory Manager™ is:**

- targeted at NHS organisations with a national user community contributing to the evolution of the product
- developed using established Microsoft technology by Microsoft Partner, BDS Solutions, now part of Cloud21, who directly support organisations via HSCN
- deployed using a proven methodology that promotes best practice and permits benefits to accrue early in the implementation process.

### 3. Directory Manager – Core Service

In summary, the **Core Service** is designed to provide organisations with a swift implementation of Directory Manager to manage starters, changes and leavers using ESR data. This is augmented by support for manual entry through the Directory Manager portal and CSV inputs.

The **Core Service** covers:

- Integration of ESR, Active Directory and NHSmail/Exchange data to the Directory Manager Digital Directory.
- Establishment of inputs provided through the Directory Manager Web Portal to 'Add Records' manually to the Digital Directory and also equivalent import through CSV.
- Establishment of workflows for the creation, update and expiration of Active Directory and NHSmail/Accounts managed by a single administrative group.
- Generation of a notification to users/managers for new, renamed or expiring accounts with separate notifications to administrators.
- Update of ESR email addresses with newly created and updated values.

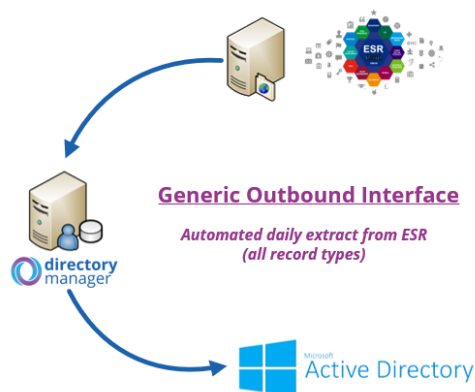
#### 3.1 Automated Daily ESR Download

Directory Manager links ESR records to Active Directory using the ESR Generic Outbound Service. This ensures the consistent and correct handling of all source data and overcomes issues with any bespoke data configurations implemented to accommodate local HR processing policies.

Benefits of configuring the ESR Generic Outbound Service

- provides a fully automated service for extracting data from ESR
- delivers all ESR record types (e.g. locations, positions, assignments etc.)
- incorporates candidate data where integrated with ESR
- specifically designed for AD solutions



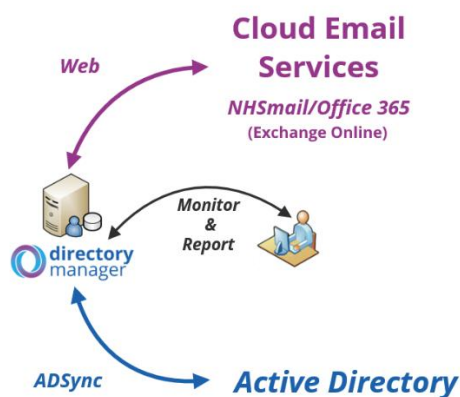


Please note the Trust will be required to liaise separately with the ESR Interface Team to initiate, and subscribe to, the required Generic Outbound Interface.

### 3.2 Email Service Integration

With proven experience in supplying connector services, BDS Solutions is able to provide enhanced reconciliation services through Directory Manager to help NHS IT teams minimise the administration burden.

Directory Manager can be utilised to implement the solution permitting the integration depicted below:



For organisations adopting either NHSmail or Office 365 within a private tenant, BDS Directory Manager can assist with easing the integration through:

- Reconciliation of existing NHSmail or Office 365 mailboxes to their local accounts, aiding migration and enabling ongoing provisioning post-migration.
- Alignment of email addresses with local account names to aid ease-of-use for users.
- Implementation of BDS Directory Manager's unique automation interface for creating account, amending accounts and marking as leavers based on change transactions occurring in Directory Manager.

- User notifications, via Directory Manager, of an initial passwords and events pertaining to account management to administrators and/or managers.

### 3.3 Digital Directory

The Digital Directory module provides controlled access to information relating to the systems with which staff are linked.

Integrating additional systems into the Digital Directory is easily achieved assuming that system can provide basic information about its users. The Automated Matching Engine maintains links between the integrated systems to provide comprehensive digital profiles for staff. The resultant digital profile to be visualised along with the full history of system changes relating to that identity.

James O'Keefe - RN7383

User: administrator

PDI: RN7383

First Name: James

Preferred First Name: Jamie

Last Name: O'Keefe

Preferred Last Name:

DoB: 17/03/1981

NI Number: NI999012C

Smartcard: 176543467546

Modified:



| Descriptor             | Value                        |
|------------------------|------------------------------|
| ADI - Account Name     | james.okeefe                 |
| ADI - Account Status   | Enabled                      |
| ADI - Organisation     | ABC                          |
| CAR - Car Park         | Staff Car Park G             |
| CAR - Car Reg          | YD56TYR                      |
| DOR - Primary Location | Block E                      |
| ESR - Cost Centre      | 777M1460                     |
| ESR - Job Title        | Deputy Ward Manager - Buryan |
| ESR - Person Start     | 2015-10-05                   |
| SKU - Email Address    | john.okeefe@myorg.nhs.uk     |

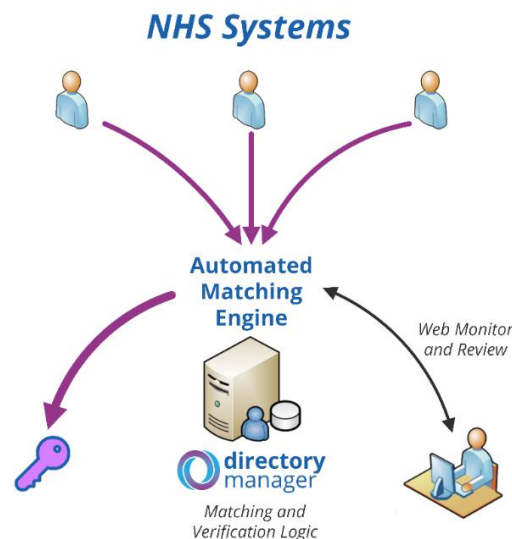
Default

| System                  | Status | System Identifier        | Start      | End | Modified            | Unlink                 |
|-------------------------|--------|--------------------------|------------|-----|---------------------|------------------------|
| Car Park System         | Active | YD56TYR                  |            |     | 21/05/2019 10:59:51 | <a href="#">Unlink</a> |
| Door System             | Active | D5456                    |            |     | 21/05/2019 10:59:59 | <a href="#">Unlink</a> |
| PAS System              | Active | 1675454                  |            |     | 21/05/2019 11:00:07 | <a href="#">Unlink</a> |
| Office365 - Enterprise  | Active | john.okeefe@myorg.nhs.uk |            |     | 21/05/2019 11:32:40 | <a href="#">Unlink</a> |
| Electronic Staff Record | Active | 382-25527549-2           | 05/10/2015 |     | 21/05/2019 10:34:22 | <a href="#">Unlink</a> |
| Active Directory        | Active | james.okeefe             | 21/05/2019 |     | 21/05/2019 11:02:10 | <a href="#">Unlink</a> |

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Where there is potential for a record to link to more than one record, the matching engine generates a partial match for review. Each potential match is given a score based on the number of elements that match, enabling the appropriate identity to be selected easily.



Each unique user is given a unique personal digital identity (PDI) key in the Digital Directory. The key is randomly generated and comprises two-alphabetic and four-numeric characters.

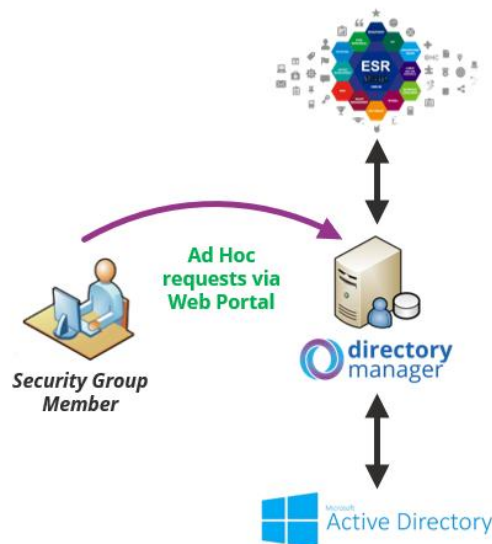
This key is easily remembered and can be used to identify the user across systems and used as a universal username. This key avoids relationships with identifiers that are subject to change or sometimes missing. With the PDI key, you are assured of a unique and immutable identifier for all system users regardless of whether they are employees or not.

Automated Matching engine enables organisations to:

- Very quickly relate data from numerous systems
- Link non-Employee records to Directory Manager
- Assemble detailed digital profiles showing key data from linked systems
- Establish a comprehensive and independent directory service
- Improve control over account provisioning and de-provisioning in many systems
- Propagate changes to multiple systems at once
- Effectively control account life-cycles and guard against system misuse
- Ease future change to help the Trust manage new business challenges

### 3.4 Ad Hoc User Requests via Add Records/CSV

The BDS Directory Manager portal permits ad hoc user requests from members of a designated security group. Requests via the portal ensure all data remains managed effectively by the identity verification procedures intrinsic to Directory Manager.



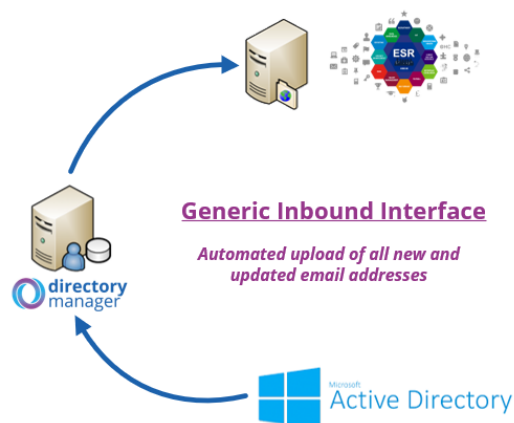
The BDS Directory Manager Core Services Web Portal provides:

- access for admin staff to create new user accounts.
- audit logging of all directory changes providing audit evidence.

Please note, the format deployed for the 'Add Records' page will adopt the same methodology as records being received from ESR (i.e. where possible will select from the same range of values). Also, CSV input will be in the standard form implemented by Directory Manager.

### 3.5 Automated Email Address Updates to ESR

Many HR teams in NHS organisations have struggled to establish reliable and efficient procedures for updating email addresses in ESR. This has sometimes meant missing, out-of-date or even incorrect addresses being associated with some staff records. This has hindered communication and in cases delayed the commencement of ESR self-service that relies on valid email addresses in ESR.



As Directory Manager explicitly links local Active Directory data with ESR records, it can utilise the Generic Inbound Service from ESR to upload new and updated address for staff email address each week. This service will be configured to run automatically and will require no further action from the Trust to ensure email addresses in ESR are kept up-to-date.

Implementing this service will provide:

- improved accuracy and usability of ESR data, enhancing workforce compliance management
- streamlining of the ESR data management process
- data required to enable ESR self-service
- removal of the need for time consuming and infrequent bulk upload processes

Please note the customer will be required to liaise separately with ESR Interface Team to initiate, and subscribe to, the required Generic Inbound Interface.

#### 4. Method of Approach

The implementation of the core **BDS Directory Manager™** solution (ESR to Active Directory) is divided into the stages described below. Following the core implementation, additional stages may be agreed to extend **BDS Directory Manager™** to use additional data sources and to further develop the identity directory.

Customer involvement is required throughout the project, with stages and resource requirements as listed in the following tables.

- Phase One                      Technical Dependencies & Installation
- Phase Two                      Configuration & Provisioning
- Phase Three                    Change & Leaver Processing
- Phase Four                      Project Closure

Note: In the phases below, separation of duties between customer teams are identified in the following way:

- HR – ESR interfaces and staff information
- IT Infrastructure – Access, security and hardware resources
- Active Directory (AD)/Email Admins – Active Directory/Email system management
- IT Account Management – Account creation and update

Please note, this represents typical separation of duties however, it is understood in some organisations these responsibilities may overlap or be managed in different way. This should not impact the deployment of BDS Directory Manager, however, it is incumbent on the customer to highlight any perceived difficulties in supporting the activities described below.

### 3.6 Technical Dependencies & Installation (Work Package 1 & 2)

| Technical Task        | Description                                                                                                                             | Customer Resource |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| ESR Connectivity      | Ordering and configuring GAD and NMI interfaces to provide the outbound and email inbound interfaces for ESR.                           | HR                |
| Remote Access Set-up  | Arranging remote access to the customer site over secure HSCN network.                                                                  | IT Infrastructure |
| Credential Set-up     | Creation of service accounts and groups to operate and provision users within the customer environment.                                 | IT Infrastructure |
| Server Preparation    | Creation of server and database resources to host the software platform and application data.                                           | IT Infrastructure |
| Software Installation | Installation and initial configuration of the Directory Manager database, services, configuration client and web portal.                |                   |
| Context Configuration | Connection to the Active Directory contexts that will be managed by Directory Manager and undertaken initial synchronisation.           |                   |
| ESR Data Warehouse    | Implement the ESR Generic Outbound Interface identity pack and import of the full extract from ESR and to build the ESR data warehouse. |                   |

### 3.7 Configuration & Provisioning (Work Package 3 & 4)

| Data Preparation Task     | Description                                                                                                                                                                                             | Resource                          |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|
| Procedure Analysis        | Establishment of the outline provisioning, change and expiration procedures identifying customer resources involved in preparation and operation of Directory Manager.                                  | AD Admins / IT Account Mgmt. / HR |
| Procedure Documentation   | Compilation and circulation of the Directory Manager configuration and procedural document.                                                                                                             |                                   |
| Automated Matching        | Execution of the in-built ESR to Active Directory matching process and handover to HR and/or IT administrators for review and sign-off.                                                                 | HR / IT                           |
| Attribute Mapping         | Establishing most effective mapping of attributes from ESR to Active Directory to support current management methodology and identifying additional attributes that add value.                          | AD Admins                         |
| Business Rules Analysis   | Establishment of the directory and messaging management principles and configuration of the provisional business rules for new, change, rename and expiration processing to implement these principles. | AD / Email Admins                 |
| Data Source Configuration | Creation of the primary ESR Data Source to present data to Directory Manager.                                                                                                                           |                                   |



| Data Preparation Task                          | Description                                                                                                      | Resource          |
|------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-------------------|
| Business Rules and Notifications Configuration | Implementation of new account business rules including email notifications relating to key events.               |                   |
| Portal Configuration                           | Configuration of the Directory Manager web portal for ad-hoc account requests.                                   |                   |
| Provisioning Tests                             | Execution of provisioning tests using test data moving to real user test examples once the process is finalised. | AD / Email Admins |
| Provisioning Procedures                        | Review and pilot of new user procedures.                                                                         | IT Account Mgmt.  |
| Provisioning Go-Live                           | Commencement of live processing of new account processing.                                                       | IT Account Mgmt.  |

### 3.8 Change & Leaver Processing (Work Package 5)

| Task                                          | Description                                                                                                                                                                 | Resource              |
|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| Procedural Review                             | Review of procedures subsequent to go-live and update of procedure document including agreement of procedure for resolving outstanding manual matching.                     | HR / IT Account Mgmt. |
| Match Completion                              | Matching of outstanding ESR records that have an existing Active Directory account.                                                                                         | HR / IT Account Mgmt. |
| Business Rules and Notification Configuration | Implementation/review of change, rename and expiration business rules including email notifications relating to key events.                                                 |                       |
| Portal Configuration                          | Configuration of the Directory Manager web portal for ad-hoc account amendments.                                                                                            |                       |
| Change, Rename & Expiration Tests             | Execution of update tests using test data, once complete, sample real user testing.                                                                                         | AD / Email Admins     |
| Change, Rename & Expiration Procedures        | Review and pilot changed and renamed user procedures and enablement of notifications.                                                                                       | IT Account Mgmt.      |
| Completion of Go-Live                         | Commencement of live processing of new and rename processing. This typically involves a full reassessment of all records in ESR to bring Active Directory fully up-to-date. | IT Account Mgmt.      |

### 3.9 Project Closure

| Task                         | Description                                                                                                       | Resource                          |
|------------------------------|-------------------------------------------------------------------------------------------------------------------|-----------------------------------|
| Procedural Finalisation      | Review of procedures subsequent to go-live and update of procedure document.                                      | HR / AD Admins / IT Account Mgmt. |
| Development Requirements     | Identification of potential future phases of development to enhance or extend the identity management procedures. | All Teams                         |
| Support Handover             | Commitment of final versions of documentation and handover to customer technical leads and BDS customer support.  |                                   |
| Project Closure <sup>1</sup> | Confirmation of implementation completion.                                                                        | Project Exec/PM                   |

<sup>1</sup> Sign-off will be requested once final documentation is committed and the solution passed to the BDS service desk. Sign-off will occur by default 5 days after submission of the Project Closure Request or upon commencement of operational processing.



## 5. Support

Support for Directory Manager is delivered under the Flexi-Care Scheme.

The core package, including 10 hours of remote support that can be utilised across the full technical portfolio and subscription costs for the selected Directory Manager services, also provides access to

- Bug fixes and service packs relating to the implemented software release.
- Microsoft and VMware technical resources at BDS to support the technical platforms as well as the software.
- Directory Manager reconfiguration, data analysis, reporting and workflow development.
- Discounted consultancy rates for engagement of BDS technical resources.
- Annual technology review meetings to discuss all aspects of infrastructure development.

The support package will auto-renew on an annual basis unless advised by written request, at least 90 days prior to the scheduled renewal.