

CENTRIFY INFRASTRUCTURE SERVICES BASIC JUMP START - 100

The Centrify Infrastructure Services Basic Jump Start 100 package is intended for environments with 100 or fewer Unix/Linux or Windows systems that make up the corporate enterprise. It is designed to give these enterprises the hands-on experience and training required to get a quick start on the deployment by implementing our best practices and utilizing our experienced consultants. This package includes four (4) seats of Virtual Infrastructure Lead Training (VILT) covering Infrastructure Services, Standard Edition Software, and eight (8) days of consulting assistance deploying a pilot environment (up to 20 systems) and a design document detailing the customer's current environment and specific Centrify architecture, design, and processes implemented to assist in completing the overall deployment.

BENEFITS

- Achieve 50% faster time-to-production
- Gain hands-on experience deploying the Centrify solution
- Gain hands-on experience configuring critical processes before implementing in a production environment
- Reduced management overhead
- A consistent, supportable implementation based on your existing business practices
- Reduced troubleshooting complexity
- A scalable zero-trust baseline to strengthen your security posture using Centrify best practices

Deliverables

At the completion of the service, you will receive the following:

- A final release Centrify Design Document (word format) that captures the Active Directory and Centrify architecture and optimal design specifically for your environment as well as the implementation of any Centrify specific critical processes that were newly implemented in your environment.
- Centrify Deployment Manager configured to discover and deploy to systems in your environment
- Four (4) staff trained on Centrify Infrastructure Services, Standard Edition software
- Centrify Infrastructure Services, Standard Edition software deployed on up to 20 systems
- Centrify Reporting Services (CRS) installed and report templates shared so your team can build your own custom report queries.
- Up to five (5) DirectAuthorize Roles configured for Unix/Linux systems (login, listed, and root equiv) and up to two (2) DirectAuthorize for Windows roles if applicable to the engagement.

Who Should Attend

- Unix/Linux, Windows, Security and/or System Administrators who need to deploy and administer the DirectControl product in their environment.

Duration

- This is a 12 day package.
- Four (4) days of virtual instructor lead training typically taken before the project begins.
- Eight (8) days of remote consulting service.
(If on-site consulting is preferred a T&E cost will be added to the quote).

Prerequisites

- **For customers with up to 100 systems.** We can help customize this offering if your organization has more than 100 systems, or consider one of our larger Jump Start packages to address the larger environment.
- The participants should have a basic understanding of Windows, Active Directory and UNIX/Linux user authentication
- Intended for IT environments with no more than 100 Windows, UNIX or Linux systems
- Centrify Deployment Manager installed and configured prior to onsite services
- Completion of up to Step 3 in Deployment Manager – “Analyze your environment” completed for the 25 target systems and results sent to Centrify two weeks prior to onsite services
- All issues identified during Step 3 resolved prior to onsite services
- Approval to create Organizational Unit for storage of Unix data prior to Centrify being onsite
- Individual with appropriate Active Directory permissions is available during onsite services
- Individual with appropriate Unix/Linux permissions is available during onsite services
- All Change Control required for implementation of Centrify Infrastructure Services, Standard Edition must be approved prior to services arriving on-site.
- Service does not include NIS LDAP, winbind, or legacy Kerberos migrations

Note: For this Jump Start all UNIX groups and systems, Provisioning Groups, Service Accounts, Role Groups, Licenses, Zone Administration Groups and Zones must be stored under a single organizational unit as a Centrify best practice.

Logistics

A reserved conference room should be equipped with a LCD projector and a whiteboard with dry-erase markers. It is recommended that participants bring laptops with network connectivity to download additional documentation as needed.

System Requirements for Training

Training classes are facilitated remotely and we recommend that each student have a designated training area, or conference room to effectively participate in the training schedule. The room should be configured in classroom style and be equipped with a LCD projector, a white board, and power outlets to support 12 computers. For each student, the customer needs to provide a computer that meets or exceeds the minimum hardware requirements listed below:

- 4GB Memory
- Dual-core processor
- An HTML5 browser
- Each student machine must be verified using this URL:
<https://virtual.mclabs.com/training/syscheck>
- 64 bit Operating System
- A stable internet connection
- The latest version of Java

Daily Logistics

DAY	ACTIVITY
1-4	<p>Centrify Education Services facilitate our four (4) day training for Centrify Infrastructure Services, Standard Edition which include the following topics:</p> <ul style="list-style-type: none"> • Installation, Setup and Configuration of Centrify Infrastructure Services • Troubleshooting and remediation of deployment issues • Planning and creating Zones • Importing users and Groups into Zones • Roles Groups, Role Overrides and Provisioning Groups • Adding new user and group profiles • Mapping and migrating UNIX Service accounts in Active Directory • Removing legacy data • Centrify Reporting Service (configuration and report templates) • Centrify Privilege Service (password management)
5	<p>Centrify Professional Services begins our 8-day implementation process with activities covering the following areas:</p> <ul style="list-style-type: none"> • Completion of Design questionnaire and review of project objects • Compare in-scope UNIX users to Active Directory users • Zone design discussion to determine Parent and Child Zone configuration • Roles, Rights discussion for personnel and Computer Roles • Planning for Centrify Infrastructure Services, Standard Edition deployment and on-going configuration management of UNIX Group policies
6	<p>Centrify Professional Services begins Centrify Suite Standard Edition deployment and continues with design activities including:</p> <ul style="list-style-type: none"> • Centrify Infrastructure Services, Standard Edition is installed (via Deployment Manager) on all in-scope deployment targets. <p>Note: Centrify Infrastructure Services, Standard Edition is not started, and users and groups are not migrated.</p>

Daily Logistics (continued)

DAY	ACTIVITY
7	<p>Active Directory Setup.</p> <p>Key topics:</p> <ul style="list-style-type: none"> • All Active Directory organizational units related to storing UNIX data in Active Directory are created • Active Directory Groups for managing the DirectControl environment are created • Delegations are established to enable UNIX personnel to manage DirectControl in Active Directory • All final Zones are built <p>A long-term UID/GID management Zone is established and all UNIX users are granted profiles in this new Zone</p>
8 - 9	<p>User and group migration.</p> <p>Key topics:</p> <ul style="list-style-type: none"> • Users and groups are migrated from local files to Active Directory; however, the local accounts are not removed, therefore allowing for a rollback strategy. • UNIX computers are joined to Active Directory during established change windows (if required) and rebooted as required • Daily status reports keep customer management aware of project progress and status
10	<p>Role-specific training.</p> <p>Key topics:</p> <ul style="list-style-type: none"> • Role-specific training is provided for UNIX user provisioning personnel • The remaining UNIX machines are joined to Active Directory and users and groups are migrated • Final status report to management
11	<p>Focus Area:</p> <ul style="list-style-type: none"> • Centrify Privilege Service (password management) • Multi-factor authentication
12	<p>Focus Area:</p> <ul style="list-style-type: none"> • Centrify Reporting Services (installation & template report overview with DBA)

**Centrify Infrastructure Services,
Standard Edition Training Course Overview**

This remote technical training will lead your team through a sample deployment using a self-contained virtual environment that can be accessed through each students browser into our Centrify lab training environment.

Training Course Details

ITEMS	DETAILS
Duration	Four (4) consecutive days remote (VILT) Virtual Instructor Lead Training
Prerequisites	Student must have a basic understanding of UNIX, Active Directory, and SQL Server
Format	(VILT), lab demonstrations, lab guides (student lab environment is provided) and each student has hands on access to their own self-contained lab environment to complete the lab assignments for each module.

Section One Training Course Modules

MODULES AND DESCRIPTIONS

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- 1** **Introduction to Centrify (30 minutes)** – An overview of Centrify, our products, and dedication to customer satisfaction.
- Key topics:**
- Background
 - Product line
 - Customer focus
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- 2** **Active Directory and Centrify Software (1 hour)** – Preparation for the Centrify deployment requires planning. We will start with a baseline for all teams to understand how the software works, and what elements will make you successful.
- Key topics:**
- Following best practices
 - Creating organizational units
 - Overview of the Centrify Software
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- 3** **Deployment Manager (1 hour)** – There are many ways to deploy the Centrify software but, during training, the Deployment Manager is the fastest method. This sets a foundation for working with UNIX machines in a Windows environment.
- Key topics:**
- Finding UNIX machines
 - Downloading Centrify agents
 - Analyzing UNIX machines
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- 4** **Zone Design (1.5 hours)** – Creating a hierarchical zone structure is crucial to a successful deployment. Understanding the reasons for zones, and how to work with hierarchical inheritance will allow you to design an easy to maintain environment.
- Key topics:**
- Hierarchical user profiles
 - Global and Child zones
 - Delegation of control
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- 5** **Pre-Create Computers (1 hour)** – Being able to visualize your environment before deployment is valuable to ensure access is granted properly. This is one of the first steps to ensuring accuracy is maintained.
- Key topics:**
- Prepare UNIX Computers
 - Join computers to zones
 - Preview structure
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- 6** **Managing UNIX Users (1 hour)** – Traditionally, UID management has been difficult and disparate. We will navigate you through the steps necessary to maintain current UID space, while also preparing for cleanup and simple maintenance.
- Key topics:**
- User profiles
 - Levels of profile over-rides
 - Importing users from current machines
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- 7** **Basic Roles and Rights (2 hours)** – The heart of proper management ensures least privilege is adhered to in your organization. We will discuss the fundamentals for roles, rights, and access in this module.
- Key topics:**
- Levels of access
 - Assigning rights
 - Assigning roles
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Section One Training Course Modules (continued)

MODULES AND DESCRIPTIONS

8	<p>Deploying the Software (1 hour) – Using Deployment Manager, the software can be pushed to many UNIX machines at one time. After deployment, we will verify users have appropriate access and learn about the tools Centrify provides.</p> <p>Key topics:</p> <ul style="list-style-type: none">• Using Deployment Manager to push UNIX software• Testing access and roles• Access joined systems with Single Sign-On and KERBEROS
9	<p>Zone Provisioning Agent (2 hours) – A difficult and time consuming task is the maintenance of UIDs. Using the Centrify ZPA can reduce or eliminate this process.</p> <p>Key topics:</p> <ul style="list-style-type: none">• Configuring the ZPA service• Understanding source groups• Review automated and semi-automated capabilities
10	<p>Roles and Rights with DZDO (2 hours) – In keeping with least privilege, this module will focus on advanced capabilities of Centrify roles. We will also learn about the centralization of management for elevated permissions.</p> <p>Key topics:</p> <ul style="list-style-type: none">• Benefits of DZDO• Centralizing permissions• Verifying rights
11	<p>Using Computer Roles (2 hours) – Managing single machines can be tedious. Computer roles will allow management, privileges, and rights to be applied to groups of machines.</p> <p>Key topics:</p> <ul style="list-style-type: none">• Defining a computer role• Creating AD groups for granting rights• Rapid deployment and expansion
12	<p>Multi-Factor Authentication Everywhere (1 hour) – Compromised credentials are a very real threat and can cost an organization everything. Using multi-factor authentication (MFA) increases security and virtually eliminates threats.</p> <p>Key topics:</p> <ul style="list-style-type: none">• Installing and configuring the Cloud Connector• Managing roles and MFA profiles• Demonstration of MFA on an elevated privilege command
13	<p>Migrating Sudoers (1 hour) – Rather than creating roles and rights individually, Centrify provides an import wizard for this process.</p> <p>Key topics:</p> <ul style="list-style-type: none">• Identifying sudoers data• Importing user and computer roles• Cleaning old data
14	<p>Active Directory Group Policy (1 hour) – Applying a wide range of security policies has never been easier. AD Group Policies will allow for rapid deployment of these policies.</p> <p>Key topics:</p> <ul style="list-style-type: none">• Explanation of Group Policy• Identifying policies for application• Verify policy compliance

Section One Training Course Modules (continued)

MODULES AND DESCRIPTIONS

15 AEDIT (1 hour) – For those preferring scripts and terminal interface, Centrify provides a command line interface using SDKs running on UNIX machines.

Key topics:

- Using the CLI
- Creating adedit queries
- Review script sample

16 Direct Authorize for Windows (1 hour) – Centrify is not limited to UNIX machines. The concepts we covered in this course apply to Windows machines as well.

Key topics:

- Installing the Direct Authorize for Windows agent
- Creating roles, rights, and elevated desktops
- Granting permissions based on match criteria

Key Assumptions

- Client understands that Centrify's performance of the Services and delivery of agreed upon deliverables under this Jump Start is dependent in part upon Client's actions, and Client therefore agrees to cooperate with Centrify in a commercially reasonable manner in the completion of the Services by Centrify. Centrify will promptly notify Client of any delays of potential delays in Centrify's ability to undertake and complete performance in accordance with the applicable schedule resulting from the inaction of Client.
- Client will provide all hardware, software, facilities, equipment, and Client personnel (including technical resources) necessary to complete the project. These resources will be provided when they are needed in order to avoid project delays.
- Client will verify that each student computer for use during onsite training meets the minimum system requirements by using the system check at: <https://virtual.mclabs.com/training/syscheck>
- Client will provide the assigned consultant for the engagement a list of students for the onsite training. This list must be emailed a minimum of two weeks in advance of the scheduled training dates.
- Client will appoint a single point of contact for the duration of the project. This person will have project management responsibilities, be technically astute and familiar with Client change request processes as well as have the authority to expedite if necessary.
- Client management will make decisions and resolve issues in a timely manner in order to avoid project delays.
- If any Consulting Services engagement is canceled by Client less than three (3) weeks before the scheduled start date for such Services, Centrify will most likely not be able to reschedule the engagement and be out the revenue. Centrify will make every effort to redeploy the consultant and if Centrify is able then the Client agrees to pay Client agrees to pay any reasonable fees and expenses incurred by Centrify in terms of travel cancellations. If Centrify is not able to redeploy the consultant then Client agrees to pay the full amount of the Consulting Fees that would have been properly invoiced by Centrify had Client not canceled such engagement, and also any reasonable fees and expenses incurred by Centrify in terms of travel cancellations. For multiple week engagements this only applies for each week that is less than the three (3) week cancellation notice.
- Client will have network connectivity and name resolution between all Client systems (including workstations and servers the Centrify Suite will be installed on, regardless of on-premise vs. off-premise computer locations) and Active Directory connectivity functioning correctly prior to work beginning.
- Centrify assumes that Client has a single Active Directory Forest in scope of this engagement.
- Centrify assumes that no computers in a DMZ at Client are in the scope of this professional services engagement.
- Centrify assumes that Client has a single logical project team in the same physical location, with representatives from the UNIX and Windows platforms participating as needed in the design discussions.
- All Client servers will be in the same data center or, if multiple data centers, there will be at least T1 connection speed between the main data center and the remote sites. It is also recommended that resources from other sites be identified in advance as project resources, if multiple remote sites are in scope.
- Client will provide Centrify with an associate that has the proper administrative access to all agent servers and will have the ability to reboot servers as necessary within twenty-four (24) hours of request. Any applications the customer has running on these systems that need to authenticate to the operating system could be affected after the agent is installed since Centrify is adding Centrify's PAM module. Some applications need to be restarted after Centrify's agent is installed in order to run properly. There is no way Centrify can know every application running on all of the servers of Client and how they will react. What Centrify has found is rebooting the server is the most reliable and safest way to ensure those applications are restarted appropriately.

- Client will ensure all systems meet the minimum patch requirements and system requirements for the Centrify Suite (see Centrify Product Release Notes for specific platform requirements). Centrify recommends the use of 'adcheck' or Deployment Manager to verify system requirements.
- All systems and applications that will have Centrify's Suite of technologies installed must be on the Supported Platforms list at: <http://www.centrify.com/directcontrol/platforms.asp>
- If the scope of this project involves any specialized customization or software development that is outside the current functionality of the Centrify Suite of Products, that development work is subject to a 30-day warranty beginning on the completion of that development work.
- For onsite engagements five (5) business days or longer, Centrify reserves the right to either work four ten (10) hour days or four (4) days on site and one day off site.
- Computer based training classes (CBT's) expire one hundred eighty (180) days from the purchase date.
- All materials and information generated or used by Centrify in the performance of the Services, including but not limited to the work product delivered to Client ("Consulting Materials"), and all intellectual property rights therein, shall be the property of Centrify. Centrify hereby grants to Client a personal, non-transferable, non-sublicensable, non-exclusive license to use, reproduce, copy and display any Consulting Materials solely for Company's internal business purposes. Client obtains no title or ownership in any Consulting Materials, and Centrify retains all right, title and interest in and to any Consulting Materials. Client retains all right, title, and interest in and to Client data.
- Engagement Management includes activities performed in support of this Jump Start that require management expertise, oversight, control, and direction in team building, communications, time management, quality assurance and quality control and management, and cost management. Centrify Professional Services will regularly communicate personnel and resource requirements for this Jump Start to be a success, ensure appropriate staffing and scheduling of Centrify personnel for this Jump Start, and ensure deliverable quality and timeliness.
- **Impracticability.** Centrify shall not be required to provide any portion of the Services to the extent the performance of such Services becomes "Impracticable" as a result of a cause or causes outside the reasonable control of Centrify including unfeasible technological requirements, or to the extent the performance of such Services would require Centrify to violate any applicable laws, rules or regulations or would result in the breach of any software license or other applicable contract.

Scope Change Control

During the performance of the engagement, certain issues may arise that effectively prevent the completion of the work outlined in this Jump Start within the planned timeframe, such as, but not limited to, hardware or network failures or outages in Client's environment, problems with Client's in-house software or Client's third-party software, or the unavailability of key Client personnel. If this situation occurs, the designated Centrify representative will work with Client

to identify and document the scope change, its impact on the project approach, timing, fees, resources, and the quality of project results. Centrify will document this using either the Centrify Change Request Form or an appropriate Change Control form provided by Client.

Any change in scope must be agreed to in writing prior to Centrify reengaging on the project and will require the signature of the Centrify Technical Services Vice President and the appropriate Client representative. Any other problems, disputes or issues arising during this engagement should be communicated as soon as possible after identification to the designated Centrify Consultant for resolution.

Timeframe and Resources

Centrify estimates that Centrify's work on the project will require the number of person-days reflected in the total days below in order to complete based upon the scope and assumptions described in this Jump Start and will be performed according to the following planned schedule:

Activity	Estimated Days
Centrify Infrastructure Services Basic Jump Start	12
Total Days	12

This proposal is based on a standard eight (8) hour workday. Any work performed in excess of a standard eight-hour workday may be subject to an hourly over time charge based on the hourly rate currently being charged to Client. If this condition occurs, Centrify will notify the Client contact, provide a change request form and obtain approval in writing from the customer prior to the overtime work being performed.

In performing this engagement, Centrify will assist in prioritizing and sizing Centrify's recommended changes, and will assist with implementing the recommended changes as time permits (i.e., up to the amount of time presented in the table above). Centrify cannot commit to assisting with implementing all of the changes Centrify will recommend as it is impossible at this point in time to determine the amount of effort that will be required to fully implement those recommendations.

Circumstances may necessitate changes to the tasks and/or time estimates. If this situation occurs, Centrify will follow the change control procedures in the Jump Start.

Period of Performance

The period of performance for this Jump Start begins upon the date of mutual signature by authorized representatives of Centrify and Client and continues through the Completion Date (as defined below). All work must be scheduled to be completed within six months (180 days) of the start of the performance period. Any modifications or extensions will be requested through Change Control for review and discussion.

Completion date. The "Completion Date" will be the earlier of (1) the date on which all Services and Deliverables are completed, or (2) six months after the date of mutual signature of this Jump Start by authorized representatives of Centrify and Client.

Acceptance Period. For each Activity described under this Jump Start, Client shall have a 15-day "Acceptance Period" beginning on

the Completion Date. During the Acceptance Period, Client may reject an Activity on the basis that it fails to conform to the written description of the Activity or Client believes the Activity has not been completed by giving written notice to Centrify. Unless such rejection notice is given during the acceptance/rejection period, as described above, the Activity will be deemed accepted by Customer at the end of the Acceptance Period.

Rejection and Cure. Centrify shall have thirty (30) days from the date of written notification of non-completion to cure any nonconformance. Acceptance on the Activity will then be calculated from the date of delivery of the new version of the Deliverables.

Professional Fees and Expenses

The fees for the Services will be outlined in the customer quotation/product schedule. Any fees that are quoted on a daily basis are equated to an hourly rate based on an eight (8) hour day (hourly rate = daily rate divided by eight hours). All Services are recorded and will be billed on this hourly basis. This fee estimate includes travel and expenses for one (1) week long trip Centrify will perform in completing the Services. This is set for the first week of the project. Centrify will adhere to the Client's travel policies once they are provided to Centrify as long as they are provided before travel has been arranged.

Personnel

Personnel Quality. Centrify agrees that all personnel used by Centrify to perform the Services will be competent and adequately trained by Centrify to perform the Services in accordance with the provisions of this Jump Start.

Background Checks. Centrify shall perform commercially reasonable background checks on all personnel assigned by Centrify to provide the Services under this Jump Start. These background checks include and are not limited to: criminal history for the past seven years, verification of employment, credit history, and education verification. Client may request in writing a letter of proof from Centrify's background check provider that the Background Check was completed successfully.

Subcontractors Permitted. Centrify may engage a Subcontractor to perform all or any portion of its duties under this Agreement provided that any such Subcontractor agrees in writing to be bound by confidentiality obligations at least as protective as the terms of this Jump Start regarding confidentiality. Subcontractors are subject to Centrify's standard Background Checks. Centrify remains responsible for the performance of such Subcontractor. Centrify will obtain written permission from Client before assigning a Subcontractor to work on this Jump Start.

Subcontractor Defined. As used in this Agreement, "Subcontractor" will mean any individual, partnership, corporation, firm, association, unincorporated organization, joint venture, trust or other entity engaged to perform hereunder. Subcontractors will be Centrify Certified Administrators who have undergone a rigorous training program from Centrify.

Tasks to be completed by the Client before Professional Services begins the engagement

- Centrify Professional Services at least one week in advance of the engagement.
- Registered students from Client will complete the online training before the onsite portion of this engagement.
- Client will determine the owner and/or responsible individual for determining privileged access to each in-scope system.
- Client will install, configure, and utilize Centrify Deployment Manager to complete the following steps in the in-scope Active Directory Forest:
 - Step (1) Discovery of all in-scope systems; and,
 - Step (2) Import all Centrify software into Deployment Manager; and,
 - Step (3) Performing an analysis of all in-scope systems, and clearing any errors from the analysis that would prevent the Centrify Suite installation.
- As an alternative to the use of Deployment Manager, Client will execute Centrify's 'adcheck' across all UNIX servers in-scope of the initial design validation phase. Client will clear all error and warning result codes from the use of 'adcheck' on all in-scope servers.
- Client will be responsible for preparing and filing change management in advance as required to prevent schedule delays
- Client will provide an inventory of UNIX hosts to be transitioned to Active Directory. This should be obtained from Deployment Manager but may be obtained through another method.
- Client will provide an inventory of UNIX user identities and UNIX groups to be transitioned to Active Directory. This should be obtained from Deployment Manager but may be obtained through another method.
- Client will provide a list of identities including user accounts, generic accounts, non system accounts that are NOT going to be migrated to DirectControl
- Client will provide a network diagram or documentation that represents UNIX systems and the Active Directory Sites and Services
- Client will provide availability and contact information of an Active Directory Administrator with Enterprise Forest Admin privileges

Centrify delivers Zero Trust Security through the power of Next-Gen Access. Centrify verifies every user, validates their devices, and limits access and privilege. Centrify also utilizes machine learning to discover risky user behavior and apply conditional access — without impacting user experience. To learn more visit www.centrify.com.

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