



## JUDICIAL COUNCIL OF CALIFORNIA

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# REPORT TO THE JUDICIAL COUNCIL

For business meeting on March 2, 2018

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<b>Title</b>	<b>Agenda Item Type</b>
Judicial Branch Operations: Next-Generation Hosting Framework Guide	Action Required
<b>Rules, Forms, Standards, or Statutes Affected</b>	<b>Effective Date</b>
None	March 2, 2018
<b>Recommended by</b>	<b>Date of Report</b>
Information Technology Advisory Committee Hon. Sheila F. Hanson, Chair ITAC Next-Generation Hosting Strategy Workstream Hon. Jackson Lucky, Executive Cosponsor Mr. Brian Cotta, Executive Cosponsor	February 15, 2018
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### Executive Summary

The Information Technology Advisory Committee (ITAC) Next-Generation Hosting Strategy Workstream recommends the approval of its proposed *Next-Generation Hosting Framework Guide* and associated documents. The framework was developed following an assessment of courts' current practices regarding their hosting solutions, considerations and requirements in selecting new solutions, and envisioned strategies for next-generation hosting. It is intended to provide guidance to court leadership with technology planning as they move toward their strategic goals and objectives.

### Recommendation

The Information Technology Advisory Committee, with the approval of the Judicial Council Technology Committee, recommends that the Judicial Council, effective March 2, 2018, approve the *Next-Generation Hosting Framework Guide*, recommendations, and associated templates, to

provide court leadership with the foundation and guidance to inform their technology planning and decision making.

The framework guide, recommendations, and templates are included in this proposal as Attachment A.

### **Previous Council Action**

In 2014, the Judicial Council adopted the judicial branch *Strategic Plan for Technology: 2014–2018*, which defines four technology goals:

- Goal 1, Promote the Digital Court
- Goal 2, Optimize Branch Resources
- Goal 3, Optimize Infrastructure
- Goal 4, Promote Rule and Legislative Changes

In accordance with this plan, in March 2018, the council also adopted the judicial branch *Tactical Plan for Technology: 2017–2018*, which outlines an initiative to transition to a next-generation hosting model.

### **Rationale for Recommendation**

In January 2016, ITAC formed a workstream comprising judicial officers, court executive officers, and technologists from trial courts, appellate courts, and the Judicial Council staff. The task of the workstream was to assess best practices for hosting technology systems, produce a road map for use by courts in evaluating options (see Attachment A, section 7.3), identify requirements for centralized hosting, and recommend a branch-level hosting strategy.

Before formation of the workstream, ITAC distributed a two-part survey to the Court Information Technology Management Forum, which gathered information on:

- Current court practices regarding their hosting solutions;
- The considerations and requirements of courts in selecting new hosting solutions; and
- Envisioned court strategy for next-generation hosting—including specific products, services, and providers—along with general approaches, alternatives, and benefits.

The survey findings provided the workstream with a baseline for understanding court resources, unmet needs, and objectives (both individually and collectively) and assisted with determining best solutions and recommendations.

With this information, the workstream met multiple times in 2016 and 2017. Several vendors provided branch educational presentations on possible solutions, opportunities, and pitfalls. Following those presentations, additional workstream meetings were held during which requirements, priorities, and recommendations were discussed. An initial draft of the *Next-*

*Generation Hosting Framework Guide* and associated recommendations and templates were distributed to the workstream in April 2017, finalized in September, and circulated for branch comment in October and November 2017.

The attached *Next-Generation Hosting Framework Guide* presents the workstream’s hosting strategy recommendations based on the branch strategic and tactical plans and the best likelihood for achieving the defined goals and objectives. The recommendations are not mandatory but rather a common framework that can be leveraged to help individual courts identify hosting solutions that are appropriate for their local environment. The workstream recognizes that many of the recommendations may not be feasible given today’s budget and resource constraints. The intention is for the framework to provide court leadership with the foundation and guidance to inform their technology planning and decision making as they move toward achieving their strategic goals and objectives.

### **Comments, Alternatives Considered, and Policy Implications**

The framework documents were circulated to the branch (including the Supreme Court, appellate courts, and superior courts) for comment. Although few suggestions were received, the response was generally supportive, with constructive comments focused on providing clarifications. As a result of these comments, non-substantive revisions were incorporated for clarity and general copyediting. A comment matrix reflecting the input received is enclosed as Attachment B.

ITAC approved the final deliverables, as revised per branch comment, at its December 4, 2017, meeting.

### **Implementation Requirements, Costs, and Operational Impacts**

Following approval by the council, the final *Next-Generation Hosting Framework Guide* and related documents will be published and made available on the Judicial Resources Network for use by the courts. The fiscal and operational impacts of this offering will vary by court, depending on how much of the framework the court is interested in and able to implement.

### **Relevant Strategic Plan Goals and Operational Plan Objectives**

Goal VI of the *Strategic Plan for California’s Judicial Branch* is “Branchwide Infrastructure for Service Excellence,” which relates to this proposal in that “[t]he judicial branch will enhance the quality of justice by providing an administrative, technological, and physical infrastructure that supports and meets the needs of the public, the branch, and its justice system and community partners, and that ensures business continuity.”

Further, the *Tactical Plan for Technology: 2017–2018* outlines an initiative to transition to a next-generation hosting model. Although this initiative is expressed under strategic plan Goal III, Optimize Infrastructure, such a hosting solution would have a direct impact on the branch’s ability to accomplish *three* of its strategic goals: Promote the Digital Court, Optimize Branch Resources, and Optimize Infrastructure.

## Attachments and Links

1. Attachment A: *Next-Generation Hosting Framework: A Guide for the California Judicial Branch*, including:
  - Recommended Service Levels, Inventory Assets, and Solutions (section 7.1)
  - Inventory Checklist Template (section 7.2)
  - Technology Roadmap Template/Sample (section 7.3)
2. Attachment B: Comment matrix from branch circulation
3. Link C: *Strategic Plan for Technology (2014–2018)*,  
[www.courts.ca.gov/documents/jctc-Court-Technology-Strategic-Plan.pdf](http://www.courts.ca.gov/documents/jctc-Court-Technology-Strategic-Plan.pdf)
4. Link D: *Tactical Plan for Technology (2017–2018)*,  
[www.courts.ca.gov/documents/jctc-Court-Technology-Tactical-Plan.pdf](http://www.courts.ca.gov/documents/jctc-Court-Technology-Tactical-Plan.pdf)

CALIFORNIA JUDICIAL BRANCH

# Next-Generation Hosting Framework

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A Guide for the California Judicial Branch

DRAFT

**VERSION 1.0**

NOVEMBER 28, 2017

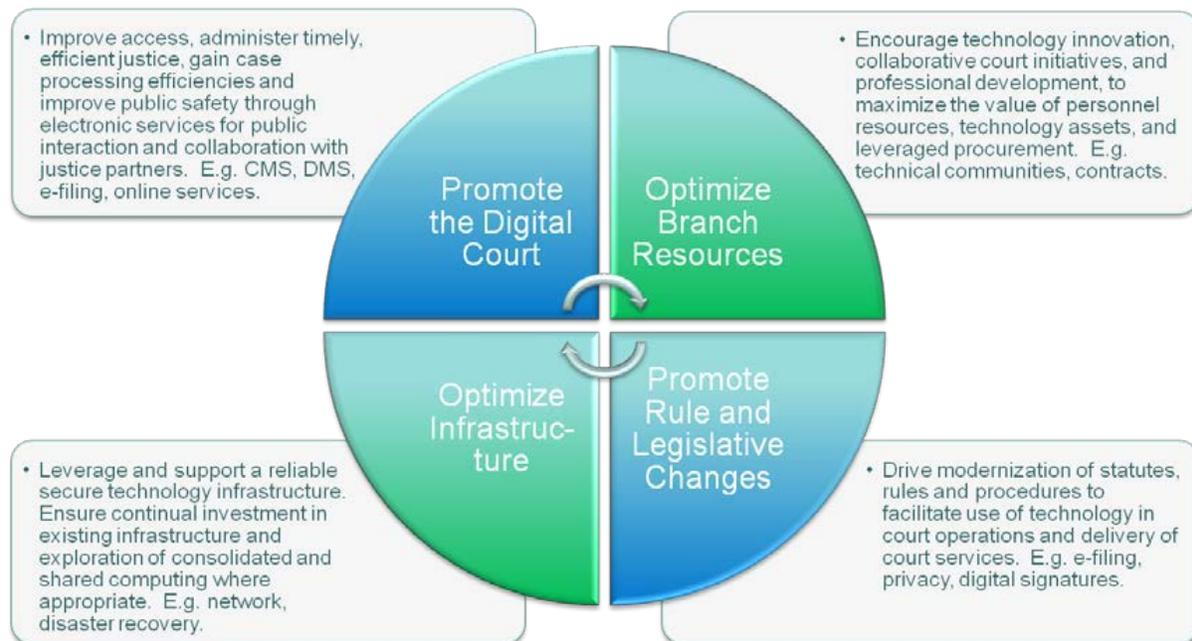
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## 1.0 INTRODUCTION

In October 2014, the California judicial branch adopted the *Strategic Plan for Technology 2014–2018* and the *Tactical Plan for Technology 2014–2016*. There are four technical goals defined within the strategic plan:

- Goal 1 Promote the Digital Court
- Goal 2 Optimize Branch Resources
- Goal 3 Optimize Infrastructure
- Goal 4 Promote Rule and Legislative Changes



In accordance with Goals 1, 2 and 3, the judicial branch tactical plan outlined the Next-Generation Hosting Initiative. While this initiative is expressly called out under Goal 3, the reality is this type of hosting solution has a direct impact on the branch's ability to accomplish three of its strategic goals: Promote the Digital Court, Optimize Branch Resources, and Optimize Infrastructure.

In order to truly achieve Goals 1 and 2, the hosting solution must take into account the requirements for those goals. For example, one set of objectives to Promote the Digital Court is

- Extended access and services to the public, including electronic filing and enhanced access for those with limited English proficiency;
- Enhanced judicial and administrative decision-making;
- Data and information sharing across the courts;
- Enhanced collaboration and cooperation between and among courts; and
- Enhanced collaboration and cooperation with local and statewide justice partners to promote public safety.

How each of these objectives is met is a direct result of the data center and the function within.

This framework provides recommendations based on the judicial branch's strategic and tactical plans and the best likelihood for achieving the defined goals and objectives. These are not mandatory requirements but rather a common framework that can be leveraged to help individual courts identify hosting solutions that are appropriate for their local environment. The Next-Generation Hosting Workstream recognizes many of the recommendations are not feasible in today's climate, due to budget and resource constraints. The intention is for the framework to provide court leadership with the foundation and guidance to move toward these strategic goals and objectives.

## 2.0 DEFINITIONS

**Cloud computing**—A type of Internet-based computing that provides shared computer processing resources and data to computers and other devices on demand. It is a model for enabling ubiquitous, on-demand access to a shared pool of configurable computing resources (e.g., computer networks, servers, storage, applications, and services), which can be rapidly provisioned and released with minimal managerial effort. These resources typically reside on the Internet instead of in a local data center.

**Data center**—A facility used to house computer systems and associated components, such as telecommunications and storage systems. It generally includes redundant or backup power supplies, redundant data communications connections, environmental controls (e.g., air conditioning, fire suppression) and various security devices.

**Data loss**—Any process or event that results in data being corrupted, deleted and/or made unreadable by a user and/or software or application.

**Hosted solutions**—For the purposes of this guide, refers to the physical servers supporting and storing court data whether provided internally, by the branch data center, or by a vendor either locally, offsite, or via cloud hosting.

**Infrastructure as a service (IaaS)**—The capability provided to the consumer to provision processing, storage, networks, and other fundamental computing resources where the consumer is able to deploy and run arbitrary software, which can include operating systems and applications.

**Local hosting solution**—A local court's data center, managed, resourced, supported, and funded by that court.

**Platform as a service (PaaS)**—A category of cloud computing services that provides a platform allowing customers to develop, run, and manage web applications without the complexity of building and maintaining the infrastructure typically associated with developing and launching an application.

**Service level**—Measures the performance of a system. Certain goals are defined and the service level gives the percentage to which those goals should be achieved.

**Software as a service (SaaS)**—A software licensing and delivery model in which software is licensed on a subscription basis and is centrally hosted on the Internet. It is sometimes referred to as “on-demand software.” SaaS is typically accessed by users using a thin client via a web browser.

**System outage; downtime**—“Downtime” refers to periods when a system is unavailable. Downtime or outage duration refers to a period of time that a system fails to provide or perform its primary function. Reliability, availability, recovery, and unavailability are related concepts.

**Vendor-hosted solution**—Cloud computing vendors that have the capability of delivering SaaS, IaaS, and PaaS technical solutions.

## 3.0 NEXT-GENERATION HOSTING FRAMEWORK

### 3.1 SCOPE OF NEXT-GENERATION HOSTING STRATEGY

The current hosting model for information technology applications and services for the California Courts Technology Center (CCTC) was developed largely based on the strategy of centrally hosting the court case management systems and other shared applications. The branchwide strategy of hosting those systems has changed; therefore, the branch must reevaluate its hosting model to ensure resources and opportunities are utilized effectively in alignment with the new strategic direction while addressing the needs of the courts.

As hosting models and technology evolve, the most cost-effective, branchwide strategy for application and services hosting can be enabled through a combination of selective consolidation, virtualization, and implementation of secure private and public cloud environments. The goal of this tactical initiative will be to determine an updated model for branchwide hosting that includes all judicial branch entities.

#### Major Tasks

- Complete a needs assessment, define branch-recommended service levels, develop implementation recommendations, and determine necessary funding changes.
- Develop a toolset for courts to utilize when determining needs and funding requirements.
- Publish findings, including a hosting implementation toolset and branch-suggested service levels.
- Finalize product, service, and maintenance contract procurement with vendor partners.
- Assist judicial branch entities with decommissioning old services and implementing new services in alignment with the needs assessment and transition plan.

#### Dependencies

- The needs assessment should align with the strategy and roadmap for the Digital Court initiatives.

#### Types of Courts Involved

All courts—Supreme Court, Courts of Appeal, and superior courts. All courts as well as the Judicial Council will benefit from an updated branchwide hosting model that is tightly aligned with current and anticipated future business requirements.

#### Workstream Phases

##### Phase 1: Develop Educational Information and Hold Summit

- Determine the top solutions in the industry.
- Define the pros and cons of each solution.
- Provide examples of court applications that could utilize each solution.
- Provide sample cost information by solution.
- Include a roadmap tool to assist courts in evaluating local needs and identifying hosting solutions for themselves.
- Produce a next-generation hosting information tool.
- Determine whether a summit on the topic is necessary and, if so, hold the summit.

## **Phase 2: Define Branch-Level Hosting Requirements**

- Identify strategies that could be implemented or utilized across the branch.
- Survey courts (all levels) on the types of applications they envision being hosted at a more central level.
- Capture hosting requirements based on Judicial Council decisions on branchwide applications.
- Define service-level requirements for a branch-level host site.
- Produce the next-generation hosting final report and requirements.

### **3.2 ORGANIZATIONAL CHARACTERISTICS**

As part of its 2015 annual agenda, the Projects Subcommittee of the Information Technology Advisory Committee (formerly the Court Technology Advisory Committee) surveyed courts on two related topics: disaster recovery preparedness and planning for future hosting of court data (next-generation hosting). All courts should be concerned about the impact of disasters of all kinds, whether resulting from extreme weather events, earthquakes, or by malicious entities. Budget and resource constraints impact the ability of individual courts, and the branch as a whole, to prepare for and recover from such disasters. A corollary to these concerns is the effect migration has to new hosting environments and will have on disaster recovery preparedness and planning.

A survey was disseminated on June 1, 2015, to the Court Information Technology Management Forum (CITMF). CITMF members are the IT leaders from each of the courts. Their responses were collected through June 19, 2015. Responses were obtained from 49 of the 53 members—a 92 percent response rate.

The survey sought to identify the existing resources, unmet needs, and near-future objectives of the courts, individually and collectively, and to determine how the branch might best facilitate solutions. The survey questionnaire was divided into two parts: the Disaster Recovery Framework Assessment and the Next-Generation Hosting Solutions Needs Assessment.

#### **Next-Generation Hosting Solutions Needs Assessment**

This assessment was designed to gather information on the following:

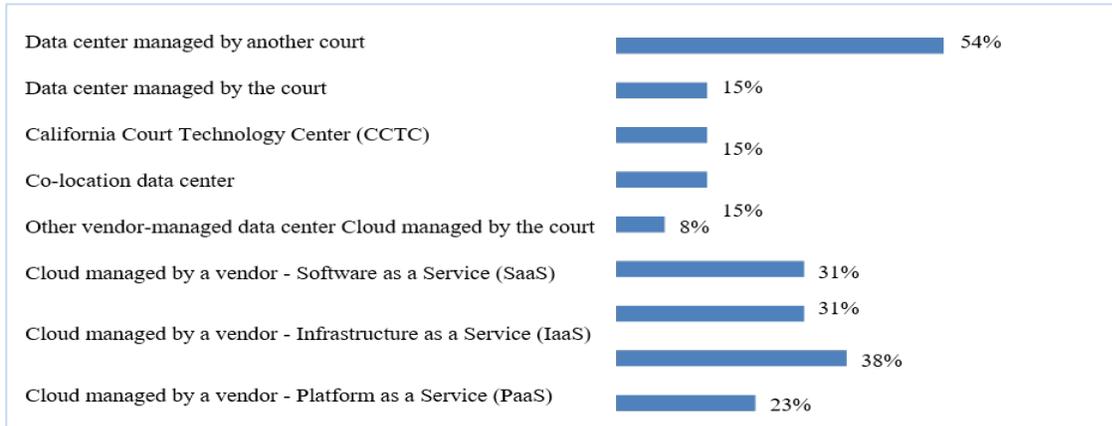
- Current practices regarding courts' hosting solutions;
- The considerations and requirements of courts in selecting new hosting solutions; and
- Envisioned court strategy for next-generation hosting, including specific products, services, and providers, along with general approaches, alternatives, and benefits.

#### **Disaster Recovery Framework Assessment**

The findings from this assessment, perhaps not surprisingly, disclose a broad range of approaches and readiness to address disaster responses, varying by court size and budget resources. The survey also shows that courts do not have only one way of hosting their systems, but use more than one hosting solution.

The following graphs outline the results of the next-generation hosting solutions section of the survey.

**Figure 1. Current judicial branch hosting solutions**



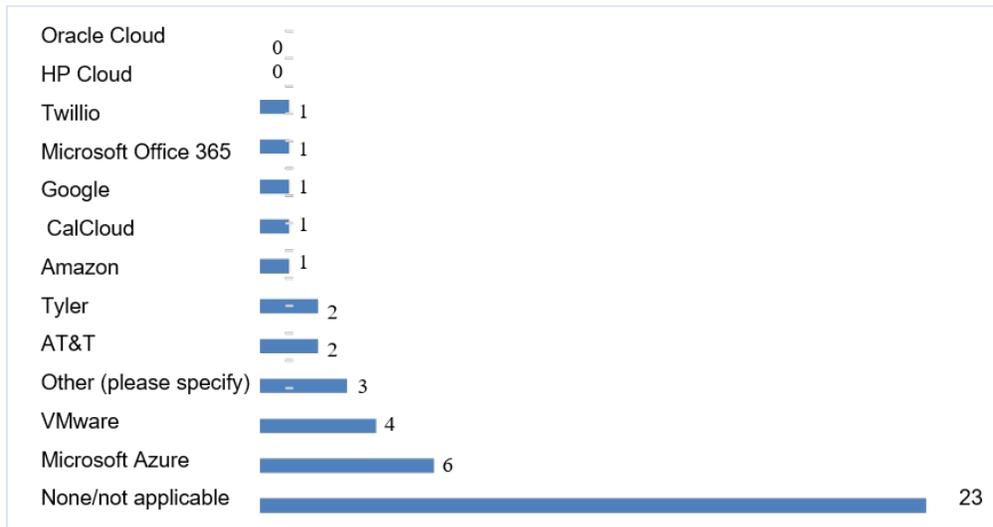
**Comments**

#	Other (please specify)
1	County managed data center but all court equipment is court owned and managed.
2	Moving to Office 365.
3	We do have servers onsite at this court location; however, SAIC manages those servers.
4	We do lease some VMware VM's from our county partners.

**Current Cloud/Virtualization Vendor Solutions**

Figure 2 lists the vendors used by those courts utilizing cloud hosting. For purposes of this survey, cloud hosting refers to services provided to customers via multiple connected servers on the Internet that comprise a cloud, as opposed to being provided by a locally hosted single server or virtual servers.

**Figure 2. Cloud hosting vendors currently used by the courts (Responses: 38)**

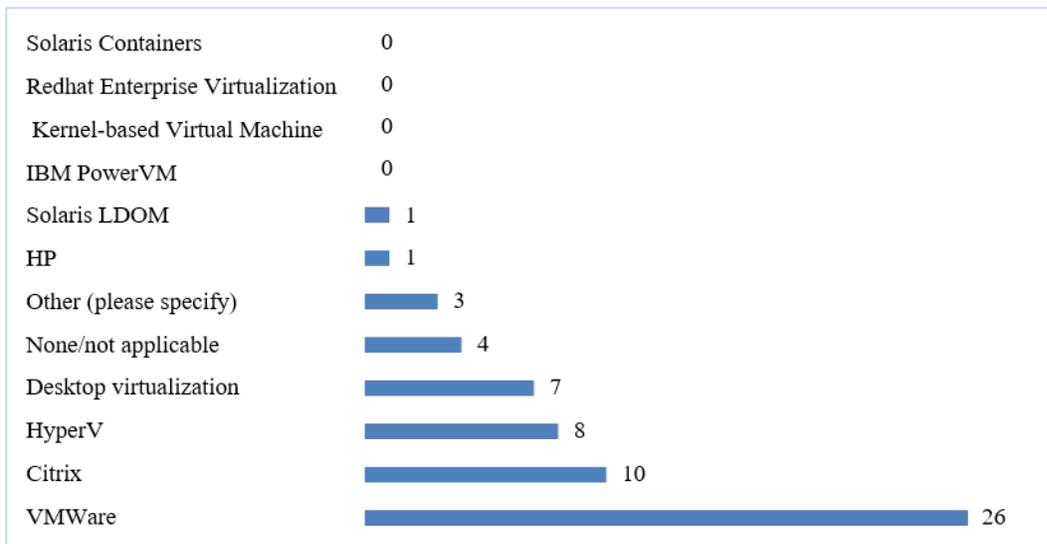


Other mentions included the following:

- “We use cloud hosting for inbound mail screening and forwarding.”
- “Barracuda Backup is based both on site and in the cloud.”
- “ADP–time and attendance, payroll, HR. Websites hosted at a web-hosting provider.”

Figure 3 lists the virtualization technologies currently deployed in the courts. Virtualization in this context refers to the act of creating a virtual (rather than physical) version of a resource, including but not limited to a virtual computer hardware platform, operating system (OS), storage device, or computer network.

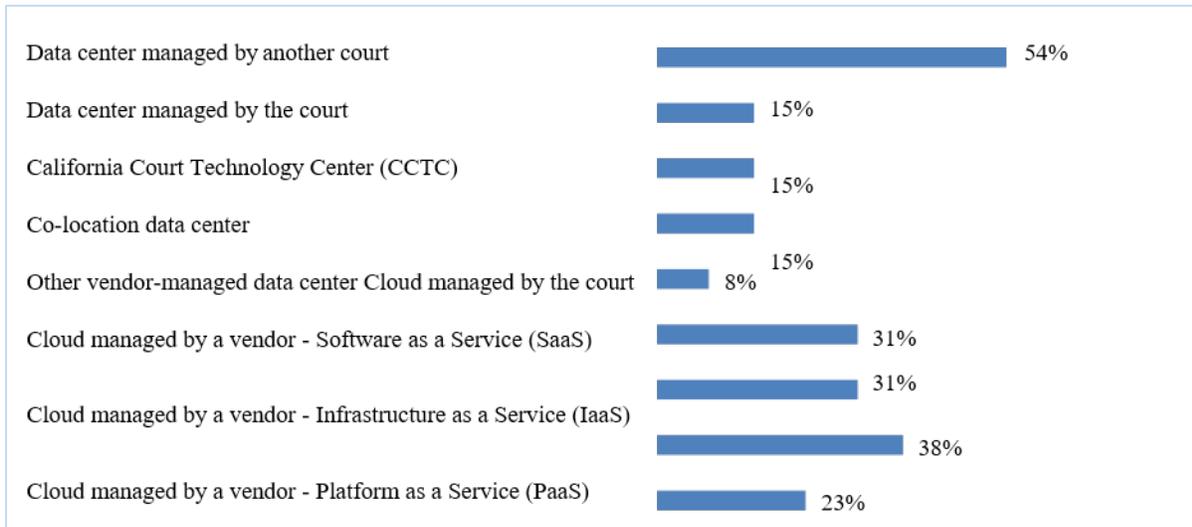
**Figure 3. Virtualization technologies currently deployed by the courts**



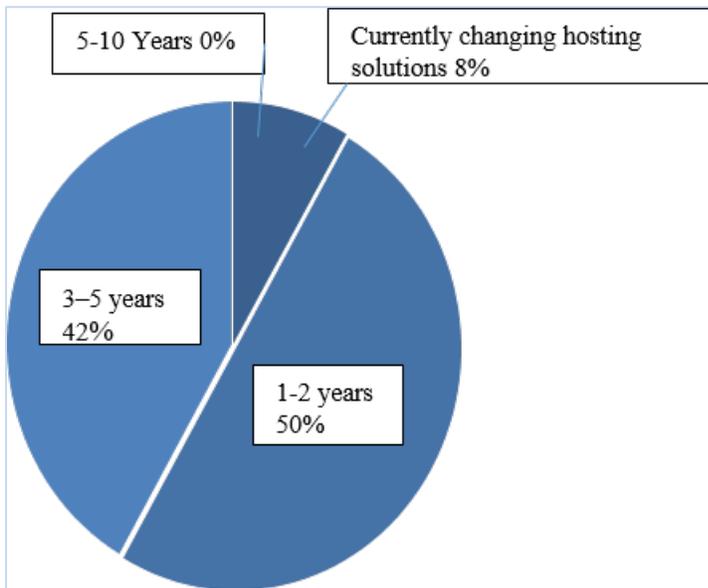
### Courts’ Short-Term and Long-Term Goals

Of the court representatives who answered, 34 percent are planning to move to a different hosting solution, with most indicating the move should occur in one to five years. Roughly half of those planning to move to a different hosting solution are considering moving to a data center managed by the court (with one-third considering a combination of court and outsourced staff), and almost all responses indicated they were considering cloud management. The primary reason for making the move was improved cost efficiencies (62 percent).

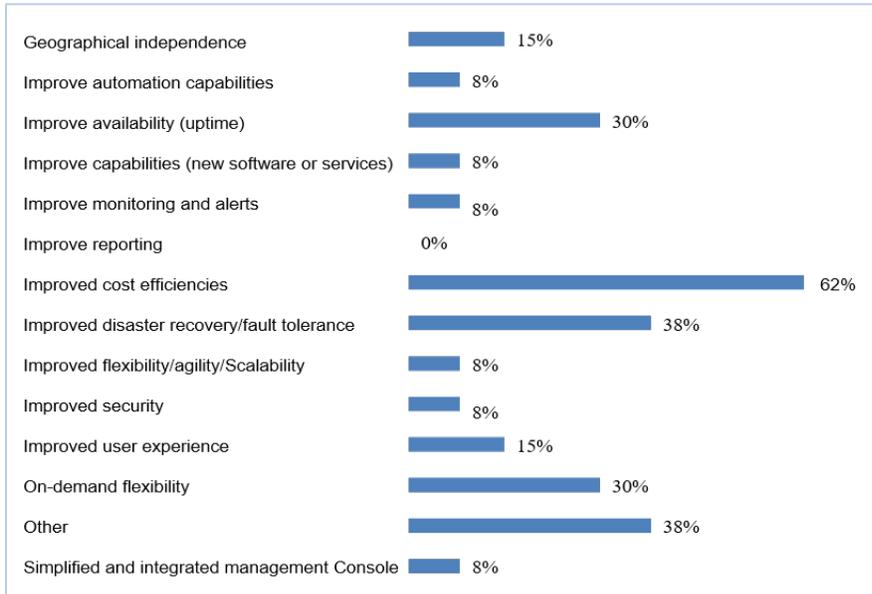
**Figure 4. Types of hosting solutions being considered**



**Figure 5. Time frame for courts to move to new hosting solution**

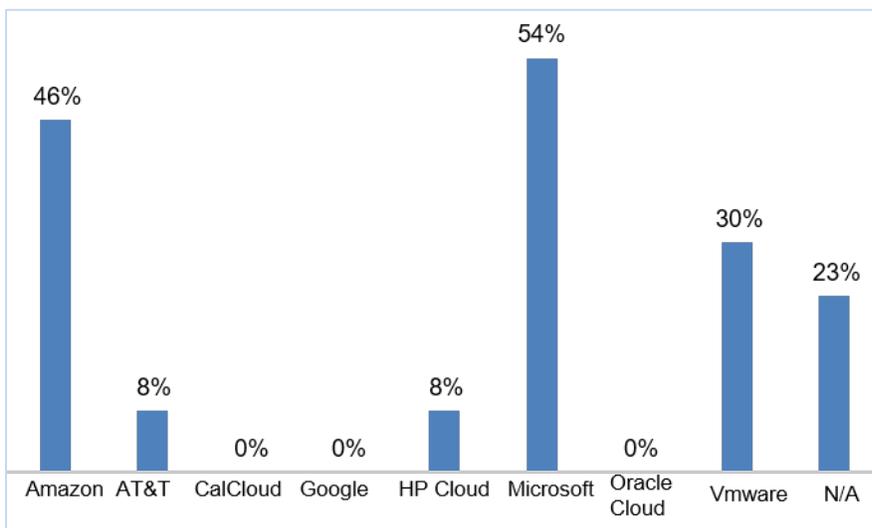


**Figure 6. Reasons courts are seeking a new hosting solution**

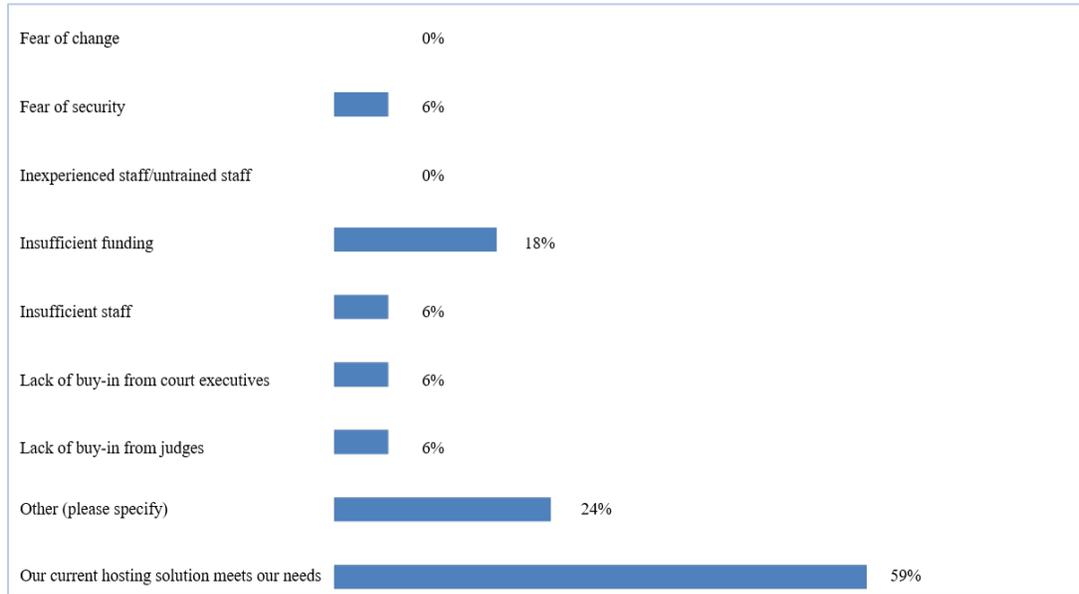


For those courts considering cloud hosting solutions, Figure 7 shows the vendors currently being considered.

**Figure 7. Vendors under consideration**



Lastly, it is important to analyze why some courts are not moving to new data center solutions. Figure 8 identifies some very clear reasons, such as no need, implementing a new case management system (CMS) (see “Other”), or no funding.

**Figure 8. Reasons for courts not seeking a new hosting solution**

## Conclusion

Although the data was generated in 2015, it outlines several key elements that are still relevant:

- Of the 34 percent of the courts who are looking to move to a cloud hosting solution, 9 percent are looking to change within the next five years.
- 62 percent are looking to make a change for cost efficiencies.
- Many courts are already starting to work with vendors, such as Microsoft and Amazon, on cloud hosting solutions.
- 42 percent of courts are not seeking a new hosting solution due to insufficient funding, security fears, insufficient staff, or lack of buy-in from judges and court executives.

CITMF surveyed the courts again, in June 2016, on the use of Office 365, and 13 courts have now moved to that cloud-based solution—a significant change from 6 courts just one year prior.

## 3.3 ORGANIZATIONAL ASSUMPTIONS

The diversity of responses recorded in the data above demonstrate that courts have reached varying levels of technical maturity. As a result, the Next-Generation Hosting Workstream had to determine some basic assumptions to meet the goals and objectives set forth in the strategic and tactical plans. The workstream recognizes that while some of the assumptions may be broad in scope, they are necessary when determining a path to the future.

Assumptions:

- All courts are utilizing or moving to modern case management systems within the next five years.
- Current court facilities meet requirements for cloud hosting.
- Courts have adequate Internet bandwidth.
- Funding can be obtained.
- Resources will be determined based on the solution selected.

- Output from the Disaster Recovery Workstream will be utilized where appropriate.

### **3.4 DOCUMENTATION STRUCTURE**

The Next-Generation Hosting Framework contains four key elements:

1. Recommended service-level definitions and time frames
2. A recommended court asset inventory sheet with court-defined service levels
3. A sample roadmap for long-term planning and a court roadmap template, including an estimate cost sheet for cloud-hosting solutions
4. A sample court asset inventory with service levels and a solution and budget estimate template

These documents are tools for courts use to define their data-hosting requirements and to create plans to move to a next-generation hosting data center.

## 4.0 PURPOSE OF NEXT-GENERATION HOSTING

As technology evolves, so do courts' needs and business practices. The courts' hosting model must partake in this evolution as well. Twenty-first century business and technology prioritizes accessibility and flexibility—a next-generation hosting solution is necessary for the courts to maintain these priorities for both its external and internal users. A new hosting solution can be accomplished through a combination of selective consolidation, virtualization, and implementation of secure private and public cloud hosting environments. The goal of this tactical initiative will be to determine an updated model for branchwide hosting, including all judicial branch entities.

The following tasks are recommended for the workstream:

- Outline industry best practices for hosting in an educational manner.
- Develop a matrix of solutions with pros, cons, and sample applications hosted, including costs.
- Produce a roadmap tool for use by courts in evaluating options.
- Consider an educational summit on hosting options and hold a summit, if appropriate.
- Identify the requirements for centralized hosting.
- Recommend a branch-level hosting strategy.

## 5.0 NEXT-GENERATION HOSTING OPTIONS AND BRANCH ASSETS

For each of the hosting solutions investigated by the technical team, the workstream created a list of pros and cons as well as a list of issues to be aware of in the selection of a hosting solution.

### 5.1 DATA CENTER OPTIONS

Based on a review of the hosting and disaster recovery assessments, as well as court ideas and strategies, the following solutions should be investigated:

- Private data center
  - A branch data center (centrally hosted)—CCTC model, Judicial Council managed, court managed
  - A court-hosted data center—court managed, limited size
    - Regional data centers
    - Regional applications
- Infrastructure as a service (cloud based)
- Software as a service (cloud based)
- Individual courts—hosting their own needs

#### Branch Data Center: All Solution Models

For any branch data center solution, courts would still have servers/infrastructure required at the courthouse. The following on-premises solutions include:

- Active Directory
- File/document store(s)
- Database(s)—potentially some or all
- Interactive voice response (IVR)
- VoIP
- Jury
- Networking

#### Branch Data Center: Vendor Hosted (Current CCTC Model)

PROS	CONS
Provides full service, including desktop solutions	Needs a cost allocation model, which would come from a negotiation between the vendor and a judicial branch entity. This cost allocation model would be included in the contract.
Removes operational pressure from court	Licenses are not included and must be budgeted above and beyond hosting vendor services. This is in contrast to cloud service providers, which often bundle licenses into the overall service cost.
Vendor manages system patches and antivirus	Less direct control for the court
Vendor manages Active Directory for centrally hosted applications (e.g., V3)	Generally more costly

For courts hosted at CCTC, vendor can also manage any server that must remain locally at the court.	Very little input in specific technology architecture being deployed at data center. This inflexibility is due in part to standardization of technology in order to maximize economies of scale. More choice can be achieved but at higher cost.
Unlike in a fully managed hosting environment, courts are able to negotiate work with the vendor for updates, hardware refresh, etc. (e.g. Madera, Lake, San Benito, and Modoc Counties) like a local data center would with court users.	Connectivity costs for reliable circuit connection to CCTC
Local hardware choices can remain with court, such as servers and desktops.	Active Directory users end up with separate AD accounts and passwords. Active Directory trusts between hosted and local forests may prove to be problematic and tough to manage at a larger scale.
No need for in-depth technical knowledge within the court.	

### **Branch Data Center: Judicial Council Hosted**

When the workstream reviewed a Judicial Council–hosted data center, the concept generated many questions and concerns due to the level of complexity. Some of the key items that would need to be resolved include the following:

- A new governance structure would be required for security and network operations;
- Judicial Council staff would need to provide on-premises support services, contract with a vendor, or look to regional support;
- A new billing model would need to be created for courts; and
- An analysis would need to be conducted of the static costs of owning space versus another data center already in place.

PROS	CONS
Larger quantity and better pricing	Judicial Council staff would have to hire subject matter experts
Branch is in full control of its branch assets	Courts would be limited to common requirements
All branch solutions in one location	Limited flexibility for being agile; must plan forward
Better pricing on software/hardware licensing	Connectivity cost
Will have the economies of scale of other hosting solutions such as Microsoft or Amazon.	
	Forecasting becomes more important for determining future cost
	Need to build out facility to specific standards; required to meet building codes

### Branch Data Center: Virtual or Cloud

Once the workstream vetted the more traditional data center models, the complexity of the issues became very apparent, so the group focused on the most likely scenario for success, which is a hybrid of both an on-premises data center and a virtual data center. Because of the various requirements and technical diversity across the branch, utilizing a hybrid approach is the most realistic, with the long-term goal of virtualizing as much of the data center as possible.

PROS	CONS
Good starting point for cloud hosting	Likely dependent on a single-vendor model
Provides agility and flexibility	Each court needs to have the expertise to work in a hybrid environment
Since two environments are available, disaster recovery can be more easily implemented	

### Local Data Center

All courts today have their own local data center running most of their applications. If the court has the existing resources and expertise, the local data center may be a more cost-effective model than the cloud-hosting model.

PROS	CONS
Local control	May or may not be higher cost, depending on existing resources
Provides agility and flexibility	Requires onsite court resources
	Requires court data center
	Should adhere to building code requirements for data centers, which may be an additional expense for the courts

## 5.2 SERVICE-LEVEL DEFINITIONS AND TIME FRAMES

In evaluating the types of hosting solutions, it is critical to define the judicial branch's hours of operation and service requirements. After evaluation of all of the current court services, the workstream is proposing judicial branch recommendations for hours of business, service-level definitions, and service-level time frames.

### Judicial branch–recommended hours of operation

Next-generation hosting services should be a 24/7 operation. While individual systems may incur planned outages for service and maintenance, the operational model for next-generation hosting should accommodate 24/7 service availability and incident-response resolution on any unscheduled outage. Advanced system monitoring and incident service-response capabilities are recommended to enable 24/7 operation.

### Judicial branch–recommended service-level definitions

- *Critical*—Damage or disruption to a service that would stop court operations, public access, or timely delivery of justice, with no viable workaround.
- *High*—Damage or disruption to a service that would hinder court operations, public access, or timely delivery of justice. A workaround is available, but may not be viable.
- *Medium*—Damage or disruption to a specific service that would impact a group of users, but has a viable workaround.
- *Basic*—Damage or disruption to a specific service that would not impact court operations, public access, or timely delivery of justice and a viable workaround is available.

### Judicial branch–recommended service-level agreement (SLA) time frames

SLA Type	SLA Criteria	Local Data Center	Cloud
<b>Critical</b>	Max Time Recovery	4 hours	1 hours
<b>Critical</b>	Max Data Loss	1 hour	5 minutes
<b>High</b>	Max Time Recovery	6 hours	2 hours

<b>High</b>	Max Data Loss	1 hour	30 minutes
<b>Moderate</b>	Max Time Recovery	24 hours	24 hours
<b>Moderate</b>	Max Data Loss	1 business day	1 business day
<b>Basic</b>	Max Time Recovery	48 hours	48 hours
<b>Basic</b>	Max Data Loss	N/A	N/A

These recommendations provide noticeably different SLA time standards between the local and cloud environments, with the standards for cloud hosts being significantly more stringent. Industry cloud providers have been able to offer these higher best practice standards and expectations given their enhanced capabilities and resource availability.

### 5.3 BRANCHWIDE ASSETS AND SERVICE LEVELS

In collaboration with the Disaster Recovery Workstream and court experts, the following list provides an inventory of court technology assets and recommended service levels in a live/production environment.

<b>Requirement</b>	<b>Recommended Service Level</b>
<b>Infrastructure</b>	
Internet	Critical
Networking (switches/routers, firewalls), virtual, wireless, WAN, LAN, middleware)	Critical
Active Directory/DNS/DHCP	Critical
Servers (local, virtual, file, print)	Critical
Security device—ATT monitoring—internal/IDS	Critical
Virus protection	Critical
Storage	Critical
Middleware	High
Backup appliance	High
Desktops (local, virtual, thin client)	High
Load balancers	High
Proxies	High
UPS/generator/power	High
Data center cooling	High
Statewide security access parameters (all workstreams)	High
System monitoring/SolarWinds	High
Spam filter	Moderate
Public information kiosks/electronic signs	Moderate
Queueing system—Qmatic/Q-Flow	Moderate

Requirement	Recommended Service Level
<b>Infrastructure</b>	
Facilities automation	Moderate
Physical monitoring—temperature	Moderate
Helpdesk—IT systems	Moderate

Requirement	Recommended Service Level
<b>Systems</b>	
Case management	Critical
Jury management	Critical
Website—public service portal	Critical
E-filing	High
Communications/VoIP/analog/faxes	High
CCPOR/CLETS	High
DMV—justice partners, branch, and local (LAN/WAN—Connection)	High
IVR/call routing	High
Electronic/video recording and playback (FTR)	Moderate
Facilities requirements—assisted listening (ADA)	Moderate
Building access controls	Moderate
E-warrants_PC Dec/iPad/Magistrate phone	Moderate
Court Call/telephonic and video appearance	Moderate
Video remote interpreting (VRI)	Moderate
Physical security—video surveillance	Moderate
Video/meeting/conference systems	Basic

Requirement	Recommended Service Level
<b>Applications</b>	
E-mail/SMTP	High
Microsoft Office	High
Payroll systems—policy/union	Moderate
LexisNexis	Moderate
Westlaw	Moderate
Jury instructions	Moderate

Adobe (Acrobat)	Moderate
Xspouse	Moderate
Judicial workbench (CMS component)	Moderate
SAP/financial	Moderate
Mobile device management	Moderate
Real-time court reporting	Moderate
HR systems (non-SAP)	Moderate
Electronic evidence (policy)	Moderate
Computer-aided facilities management (CAFM)	Low
Web browser (Internet Explorer/Chrome)	Basic
Locally developed applications	Court discretion

#### 5.4 BRANCHWIDE NEXT-GENERATION RECOMMENDED SOLUTIONS

After careful review of the various solutions available, the workstream determined the two best solutions for moving forward were either local installation or cloud services. As previously noted, courts are still required to provide many local IT solutions, such as kiosks, network equipment, and local storage. However, the majority of the court applications can run in a cloud environment. If a court has the necessary infrastructure (Internet) and the cost is equal to or less than that of a local installation, the court should move to cloud-based services.

Requirement	Applicable Solution		
	Local	Private Data Center	Cloud
<b>Infrastructure</b>			
Internet			✓
Networking (switches/routers, firewalls), virtual, wireless, WAN, LAN, middleware)	✓		✓
Servers (local, virtual, file, print)	✓		✓
Security device—ATT monitoring—internal/IDS	✓		✓
Virus protection	✓		✓
Storage	✓		✓
Active Directory/DNS/DHCP	✓		✓
Middleware	✓		✓
Backup appliance	✓		✓
Desktops (local, virtual, thin client)	✓		✓
Load balancers	✓		✓
Proxies	✓		✓
UPS/generator/power	✓		
Data center cooling	✓		
Statewide security access parameters (all workstreams)	✓		✓
System monitoring/SolarWinds	✓		✓

Spam filter			✓
Public information kiosks/electronic signs	✓		
Queueing system—Qmatic/Q-Flow			✓
Facilities automation			✓
Physical monitoring—temperature			✓
Helpdesk—IT systems			✓

Requirement	Applicable Solution		
	Local	Private Data Center	Cloud
<b>Systems</b>			
Case management	✓	✓	✓
Jury management	✓		✓
Website—public service portal			✓
E-filing			✓
Communications/VoIP/analog/faxes	✓		
CCPOR/CLETS			✓
DMV—justice partners, branch, and local (LAN/WAN—Connect)	✓		
IVR/call routing	✓		✓
Video/meeting/conference systems			✓
Electronic/video recording and playback (FTR)	✓		✓
Facilities requirements—assisted listening (ADA)	✓		
Building access controls	✓		
E-warrants_PC Dec/iPad/Magistrate phone			✓
Court Call/telephonic and video appearance			✓
Video remote interpreting (VRI)			✓
Physical security—video surveillance	✓		✓

Requirement	Applicable Solution		
	Local	Private Data Center	Cloud
<b>Applications</b>			
E-mail/SMTP			✓
Microsoft Office	✓		✓
Payroll systems—policy/union			✓
LexisNexis			✓
Westlaw			✓
Jury instructions	✓		✓

Requirement	Applicable Solution		
	Local	Private Data Center	Cloud
Adobe (Acrobat)			✓
Xspouse			✓
Judicial workbench (CMS component)			✓
SAP/financial			✓
Mobile device management			✓
Real-time court reporting	✓		
HR systems (non-SAP)			✓
Electronic evidence (policy)	✓		✓
CAFM			✓
Web browser (Internet Explorer/Chrome)			✓
Locally developed applications**	✓		✓

## 6.0 BRANCHWIDE RECOMMENDATIONS

The Next-Generation Hosting Workstream provides its recommendations based on the business and operational needs of the courts and has created a framework within which they may make decisions on what will be best for their needs. The workstream recognizes industry standards and other initiatives that may already be in place to address key considerations such as security, performance, or disaster recovery in order to safely adopt cloud solutions.

After significant analysis, the workstream has determined the following recommendations for the Information Technology Advisory Committee and the Judicial Council Technology Committee:

- If the courts have the ability and the opportunity, and the cost is less than a local solution, they should move to a cloud solution;
- Adopt the recommended branch service levels and hours of operation for all data center solutions;
- Do not proceed with a VMware vendor for a branchwide agreement;
- When a technology change occurs that impacts the branch and provides an opportunity for improved support, a corresponding support model should be developed;
- Approve Phase 2 of the Next-Generation Hosting Framework, including pilot court and cloud service agreements;
- Microsoft is the office and e-mail standard across the branch, whether using Exchange or Office 365; and
- Host a webinar for courts to learn about the Next-Generation Hosting Framework.

## **7.0 USING THE NEXT-GENERATION HOSTING FRAMEWORK**

### **7.1 RECOMMENDED SERVICE LEVELS, INVENTORY ASSETS, AND SOLUTIONS**

See Attachment A

### **7.2 INVENTORY CHECKLIST TEMPLATE**

See Attachment B.

### **7.3 TECHNOLOGY ROADMAP TEMPLATE**

See Attachment C.

# NEXT GENERATION HOSTING JUDICIAL BRANCH RECOMMENDATIONS

## Hours of Operation

Data center operations and availability is 24 hours a day, 7 days a week.

## Service level definitions

Critical: damage or disruption to a service that would stop court operations, public access or timely delivery of justice, with no viable work-around.

High: damage or disruption to a service that would hinder court operations, public access or timely delivery of justice. A work-around is available, but may not be viable.

Medium: damage or disruption to a specific service that would impact a group of users, but has a viable work-around.

Systems Support: damage or disruption to a specific service that would not impact court operations, public access or timely delivery of justice and a viable work-around is available.

## Production service level agreement times

SLA Type	SLA Criteria	Local Data Center	Cloud
<b>Critical</b>	Max Time Recovery	4 hours	1 hours
<b>Critical</b>	Max Data Loss	1 hour	5 minutes
<b>High</b>	Max Time Recovery	6 hours	2 hours
<b>High</b>	Max Data Loss	1 hour	30 minutes
<b>Moderate</b>	Max Time Recovery	24 hours	24 hours
<b>Moderate</b>	Max Data Loss	1 Business day	1 Business day
<b>Basic</b>	Max Time Recovery	48 hours	48 hours
<b>Basic</b>	Max Data Loss	N/A	N/A

## Inventory Assets with Services Level and viable solution

Requirement	Service Level	Applicable Solution		
		Local	Private Data Center	Cloud
<b>Infrastructure</b>				
Internet	Critical			✓
Networking (switches/routers, Firewalls), Virtual, Wireless, WAN, LAN, Middleware)	Critical	✓		✓
Servers (local, virtual, File, Print)	Critical	✓		✓
Security Device- ATT Monitoring-Internal/IDS	Critical	✓		✓
Virus protection	Critical	✓		✓
Storage	Critical	✓		✓
Active Directory/DNS/DHCP	Critical	✓		✓
Middleware	High	✓		✓
Back-up Appliance	High	✓		✓
Desktops (Local, virtual, thin client)	High	✓		✓
Load Balancers	High	✓		✓
Proxy's	High	✓		✓
UPS/Generator/ Power	High	✓		
Data center Cooling	High	✓		
Statewide Security Access parameters (All workstreams)	High	✓		✓
System Monitoring/Solarwinds	High	✓		✓
Spam filter	Moderate			✓
Public Information Kiosks / Electronic signs	Moderate	✓		
Queueing system- Qmatic/Qflow	Moderate			✓
Facilities automation	Moderate			✓
Physical Monitoring-Temperature	Moderate			✓
Helpdesk- IT Systems	Moderate			✓

Requirement	Service Level	Applicable Solution		
		Local	Private Data Center	Cloud
<b>Systems</b>				
Case Management	Critical	✓	✓	✓
Jury Management	Critical	✓		✓
Website - Public Service Portal	Critical			✓
E-filing	High			✓
Communications/VoIP/Analog/Faxes	High	✓		
CCPOR/CLETS	High			✓
DMV- Justice Partners Branch and local (Lan/Wan- Connect)	High	✓		
IVR/Call Routing	High	✓		✓
Video/Meeting/Conference Systems	Basic			✓
Electronic/Video Recording and Playback (FTR)	Moderate	✓		✓
Facilities Requirements- Assisted Listening (ADA)	Moderate	✓		
Building Access Controls	Moderate	✓		
E-Warrants_PC Dec/Ipad/Magistrate phone	Moderate			✓
Court Call/Telephonic/Video appearance	Moderate			✓
VRI - Video Remote Interpreting	Moderate			✓
Physical Security- Video Surv.	Moderate	✓		✓

Requirement	Service Level	Applicable Solution		
		Local	Private Data Center	Cloud
<b>Applications</b>				
E-Mail/SMTP	High			✓
MS Office	High	✓		✓
Payroll Systems- Policy/Union	Moderate			✓
Lexis Nexis	Moderate			✓
West Law	Moderate			✓
Jury Instructions	Moderate	✓		✓
Adobe (Acrobat)	Moderate			✓
X-spouse	Moderate			✓
Judicial workbench (CMS Component)	Moderate			✓
SAP/Financial	Moderate			✓
Mobile device management	Moderate			✓
Real-time court reporting	Moderate	✓		
HR Systems (Non-SAP)	Moderate			✓
Electronic Evidence (Policy)	Moderate	✓		✓
CAFM	Basic			✓
Web browser (Internet Explorer/Chrome)	Basic			✓
Locally developed applications**	Court discretion	✓		✓

## Roadmap Pricing Matrix (will be finalized with Phase 2):

Requirement	Service Level	Cloud Solution				
Infrastructure		X-Large /Branch	Large	Medium	Small	
Internet	Critical	✓				\$\$
Networking (switches/routers, Firewalls), Virtual, Wireless, WAN, LAN, Middleware)	Critical	✓				
Servers (local, virtual, File, Print)	Critical	✓				\$
Security Device- ATT Monitoring-Internal/IDS	Critical	✓				\$\$
Virus protection	Critical	✓				
Storage	Critical	✓				
Active Directory/DNS/DHCP	Critical	✓	\$\$		\$\$	
Middleware	High	✓				
Back-up Appliance	High	✓	\$			
Desktops (Local, virtual, thin client)	High	✓				
Load Balancers	High	✓				
Proxy's	High	✓				
UPS/Generator/ Power	High					
Data center Cooling	High					
Statewide Security Access parameters (All workstreams)	High	✓				
System Monitoring/Solarwinds	High	✓	\$		\$\$	\$
Spam filter	Moderate	✓	\$			
Public Information Kiosks / Electronic signs	Moderate					
Queueing system- Qmatic/Qflow	Moderate	✓				
Facilities automation	Moderate	✓				
Physical Monitoring-Temperature	Moderate	✓				
Helpdesk- IT Systems	Moderate	✓				

### Extra Large

<b>/Branch</b>	\$\$\$	\$1,000,000-\$5,000,000
	\$\$	\$200,000-\$999,999
	\$	\$15,000-\$199,999

<b>Large Court:</b>	\$\$\$	\$250,000-\$500,000
	\$\$	\$xxxxxx.xx-\$xxxxxx
	\$	\$xxxxxx.xx-\$xxxxxx

### Medium

<b>Court:</b>	\$\$\$	\$150,000-\$250,000
	\$\$	\$50,000-\$150,000
	\$	\$5,000-\$50,000

### Small

<b>Court:</b>	\$\$\$	\$30,000-\$60,000
	\$\$	\$10,000-\$30,000
	\$	\$1,000-\$10,000

Requirement	Service Level	Cloud				
		X-Large /Branch	Large	Medium	Small	
<b>Systems</b>						
Case Management	Critical	✓	\$\$\$	\$\$\$	\$\$\$	\$\$\$
Jury Management	Critical	✓	\$\$		\$\$	\$
Website - Public Service Portal	Critical	✓	\$\$		\$	
E-filing	High	✓	\$\$			
Communications/VoIP/Analog/Faxes	High					
CCPOR/CLETS	High	✓				
DMV- Justice Partners Branch and local (Lan/Wan- Connect)	High					
IVR/Call Routing	High	✓				
Video/Meeting/Conference Systems	Basic	✓				\$
Electronic/Video Recording and Playback (FTR)	Moderate	✓				
Facilities Requirements- Assisted Listening (ADA)	Moderate					
Building Access Controls	Moderate					
E-Warrants/ PC Dec/Ipad/Magistrate phone	Moderate	✓				
Court Call/Telephonic/Video appearance	Moderate	✓				
VRI - Video Remote Interpreting	Moderate	✓				\$
Physical Security- Video Surveillance	Moderate	✓				

**Extra Large**

<b>/Branch</b>	\$\$\$	\$1,000,000-\$5,000,000
	\$\$	\$200,000-\$999,999
	\$	\$15,000-\$199,999

<b>Large Court:</b>	\$\$\$	\$250,000-\$500,000
	\$\$	\$xxxxxx.xx-\$xxxxx
	\$	\$xxxxxx.xx-\$xxxxx

**Medium**

<b>Court:</b>	\$\$\$	\$150,000-\$250,000
	\$\$	\$50,000-\$150,000
	\$	\$5,000-\$50,000

<b>Small Court:</b>	\$\$\$	\$30,000-\$60,000
	\$\$	\$10,000-\$30,000
	\$	\$1,000-\$10,000

Requirement	Service Level	Cloud				
Applications		X-Large /Branch	Large	Medium	Small	
E-Mail/SMTP	High	✓	\$\$\$ O365	\$ Email	\$\$ O365	
MS Office	High	✓				
Payroll Systems- Policy/Union	Moderate	✓			\$	
Lexis Nexis	Moderate	✓			\$	
West Law	Moderate	✓			\$	
Jury Instructions	Moderate	✓				
Adobe (Acrobat)	Moderate	✓				
X-spouse	Moderate	✓				
Judicial workbench (CMS Component)	Moderate	✓				
SAP/Financial	Moderate	✓				
Mobile device management	Moderate	✓				
Real-time court reporting	Moderate					
HR Systems (Non-SAP)	Moderate	✓				
Electronic Evidence (Policy)	Moderate	✓				
CAFM	Basic	✓				
Web browser (Internet Explorer/Chrome)	Basic	✓				
Locally developed applications**	Court discretion	✓				

<b>Extra Large /Branch</b>	\$\$\$	\$1,000,000-\$5,000,000	<b>Medium Court:</b>	\$\$\$	\$150,000-\$250,000
	\$\$	\$200,000-\$999,999		\$\$	\$50,000-\$150,000
	\$	\$15,000-\$199,999		\$	\$5,000-\$50,000
<b>Large Court:</b>	\$\$\$	\$250,000-\$500,000	<b>Small Court:</b>	\$\$\$	\$30,000-\$60,000
	\$\$	\$xxxxxx.xx-\$xxxxx		\$\$	\$10,000-\$30,000
	\$	\$xxxxxx.xx-\$xxxxx		\$	\$1,000-\$10,000

### Court Data Center Inventory list and Service Levels

Recommend Service Level				Court Defined Service Level			
SLA Type	SLA Criteria	Local Data Center	Cloud	SLA Type	SLA Criteria	Local Data Center	Cloud
Critical	Max Time Recovery	4 hours	1 hours	Critical	Max Time Recovery		
Critical	Max Data Loss	1 hour	5 minutes	Critical	Max Data Loss		
High	Max Time Recovery	6 hours	2 hours	High	Max Time Recovery		
High	Max Data Loss	1 hour	30 minutes	High	Max Data Loss		
Moderate	Max Time Recovery	24 hours	24 hours	Moderate	Max Time Recovery		
Moderate	Max Data Loss	1 Business day	1 Business day	Moderate	Max Data Loss		
Basic	Max Time Recovery	48 hours	48 hours	Basic	Max Time Recovery		
Basic	Max Data Loss	N/A	N/A	N/A	N/A		

Requirement	Recommend Service Level	Court Service Level	Applicable Solution		Estimated Amount \$\$ from Road Map			
			Local	Cloud	Year 1	Year 2	Year 3	Year 4
<b>Infrastructure</b>								
Internet	Critical							
Networking (switches/routers, Firewalls), Virtual, Wireless, WAN, LAN, Middleware)	Critical							
Servers (local, virtual, File, Print)	Critical							
Security Device- ATT Monitoring-Internal/IDS	Critical							
Virus protection	Critical							
Storage	Critical							
Active Directory/DNS/DHCP	Critical							
Middleware	High							
Back-up Appliance	High							
Desktops (Local, virtual, thin client)	High							
Load Balancers	High							
Proxy's	High							
UPS/Generator/ Power	High							
Data center Cooling	High							
Statewide Security Access parameters (All workstreams)	High							
System Monitoring/Solarwinds	High							
Spam filter	Moderate							
Public Information Kiosks / Electronic signs	Moderate							
Queueing system- Qmatic/Qflow	Moderate							
Facilities automation	Moderate							
Physical Monitoring-Temperature	Moderate							
Helpdesk- IT Systems	Moderate							
					\$0.00	\$0.00	\$0.00	\$0.00
<b>ESTIMATED STRATEGIC BUDGET</b>								<b>\$0.00</b>

Requirement	Recommend Service Level	Court Service Level	Applicable Solution		Estimated Amount \$\$ from Road Map			
			Local	Cloud	Year 1	Year 2	Year 3	Year 4
<b>Systems</b>								
Case Management	Critical							
Jury Management	Critical							
Website - Public Service Portal	Critical							
E-filing	High							
Communications/VoIP/Analog/Faxes	High							
CCPOR/CLETS	High							
DMV- Justice Partners Branch and local (Lan/Wan- Connect)	High							
IVR/Call Routing	High							
Video/Meeting/Conference Systems	Basic							
Electronic/Video Recording and Playback (FTR)	Moderate							
Facilities Requirements- Assisted Listening (ADA)	Moderate							
Building Access Controls	Moderate							
E-Warrants_PC Dec/Ipad/Magistrate phone	Moderate							
Court Call/Telephonic/Video appearance	Moderate							
VRi - Video Remote Interpreting	Moderate							
Physical Security- Video Surv.	Moderate							
					\$0.00	\$0.00	\$0.00	\$0.00
<b>ESTIMATED STRATEGIC BUDGET</b>								<b>\$0.00</b>

Requirement	Recommend Service Level	Court Service Level	Applicable Solution		Estimated Amount \$\$ from Road Map				
			Local	Cloud	Year 1	Year 2	Year 3	Year 4	
<b>Applications</b>									
E-Mail/SMTP	High								
MS Office	High								
Payroll Systems- Policy/Union	Moderate								
Lexis Nexis	Moderate								
West Law	Moderate								
Jury Instructions	Moderate								
Adobe (Acrobat)	Moderate								
X-spouse	Moderate								
Judicial workbench (CMS Component)	Moderate								
SAP/Financial	Moderate								
Mobile device management	Moderate								
Real-time court reporting	Moderate								
HR Systems (Non-SAP)	Moderate								
Electronic Evidence (Policy)	Moderate								
CAFM	Basic								
Web browser (Internet Explorer/Chrome)	Basic								
Locally developed applications**	Court discretion								
					\$0.00	\$0.00	\$0.00	\$0.00	
					<b>ESTIMATED STRATEGIC BUDGET</b>				\$0.00

**SAMPLE ROADMAP**

\*Costs are samples from existing trial courts

Budget Year 1: \$200,000 Budget Year 2: \$300,000 Budget Year 3: \$250,000 Budget Year 4: \$250,000.00

Requirement		Service Level	Cloud Solution			
Infrastructure			X-Large/Branch	Large	Medium	Small
Internet	Critical	✓				\$\$
Networking (switches/routers, Firewalls), Virtual, Wireless, WAN, LAN, Middleware)	Critical	✓				
Servers (local, virtual, File, Print)	Critical	✓				\$
Security Device- ATT Monitoring-Internal/IDS	Critical	✓				\$\$
Virus protection	Critical	✓				
Storage	Critical	✓				
Active Directory/DNS/DHCP	Critical	✓	\$\$		\$\$	
Middleware	High	✓				
Back-up Appliance	High	✓	\$			
Desktops (Local, virtual, thin client)	High	✓				
Load Balancers	High	✓				
Proxy's	High	✓				
UPS/Generator/ Power	High					
Data center Cooling	High					
Statewide Security Access parameters (All workstreams)	High	✓				
System Monitoring/Solarwinds	High	✓	\$		\$\$	\$
Spam filter	Moderate	✓	\$			
Public Information Kiosks / Electronic signs	Moderate					
Queueing system- Qmatic/Qflow	Moderate	✓				
Facilities automation	Moderate	✓				
Physical Monitoring-Temperature	Moderate	✓				
Helpdesk- IT Systems	Moderate	✓				
<b>Extra Large/Branch</b>	\$\$\$	\$1,000,000-\$5,000,000			<b>Medium Court:</b> \$\$\$	\$150,000-\$250,000
	\$\$	\$200,000-\$999,999			\$\$	\$50,000-\$150,000
	\$	\$15,000-\$199,999			\$	\$5,000-\$50,000
<b>Large Court:</b>	\$\$\$	\$250,000-\$500,000			<b>Small Court:</b> \$\$\$	\$30,000-\$60,000
	\$\$	\$xxxxxx.xx-\$xxxxxx			\$\$	\$10,000-\$30,000
	\$	\$xxxxxx.xx-\$xxxxxx			\$	\$1,000-\$10,000

Requirement		Service Level	Cloud			
Systems						
Case Management	Critical	✓	\$\$\$	\$\$\$	\$\$\$	\$\$\$
Jury Management	Critical	✓	\$\$		\$\$	\$
Website - Public Service Portal	Critical	✓	\$\$		\$	
E-filing	High	✓	\$\$			
Communications/VoIP/Analog/Faxes	High					
CCPOR/CLETS	High	✓				
DMV- Justice Partners Branch and local (Lan/Wan- Connect)	High					
IVR/Call Routing	High	✓				
Video/Meeting/Conference Systems	Basic	✓				\$
Electronic/Video Recording and Playback (FTR)	Moderate	✓				
Facilities Requirements- Assisted Listening (ADA)	Moderate					
Building Access Controls	Moderate					
E-Warrants_PC Dec/Ipad/Magistrate phone	Moderate	✓				
Court Call/Telephonic/Video appearance	Moderate	✓				
VRl - Video Remote Interpreting	Moderate	✓				\$
Physical Security- Video Surv.	Moderate	✓				
<b>Extra Large/Branch</b>	\$\$\$	\$1,000,000-\$5,000,000			<b>Medium Court:</b> \$\$\$	\$150,000-\$250,000
	\$\$	\$200,000-\$999,999			\$\$	\$50,000-\$150,000
	\$	\$15,000-\$199,999			\$	\$5,000-\$50,000
<b>Large Court:</b>	\$\$\$	\$250,000-\$500,000			<b>Small Court:</b> \$\$\$	\$30,000-\$60,000
	\$\$	\$xxxxxx.xx-\$xxxxxx			\$\$	\$10,000-\$30,000
	\$	\$xxxxxx.xx-\$xxxxxx			\$	\$1,000-\$10,000

Requirement		Service Level	Cloud			
Applications						
E-Mail/SMTTP	High	✓	\$\$ O365	\$\$\$ O365	\$(Email Only)	\$\$ O365
MS Office	High	✓				
Payroll Systems- Policy/Union	Moderate	✓				\$
Lexis Nexis	Moderate	✓				\$
West Law	Moderate	✓				\$
Jury Instructions	Moderate	✓				
Adobe (Acrobat)	Moderate	✓				
X-spouse	Moderate	✓				

Judicial workbench (CMS Component)	Moderate	✓				
SAP/Financial	Moderate	✓				
Mobile device management	Moderate	✓				
Real-time court reporting	Moderate					
HR Systems (Non-SAP)	Moderate	✓				
Electronic Evidence (Policy)	Moderate	✓				
CAFM	Basic	✓				
Web browser (Internet Explorer/Chrome)	Basic	✓				
Locally developed applications**	Court discretion	✓				
<b>Extra Large/Branch</b>	\$\$\$	\$1,000,000-\$5,000,000		<b>Medium Court:</b>	\$\$\$	\$150,000-\$250,000
	\$\$	\$200,000-\$999,999			\$\$	\$50,000-\$150,000
	\$	\$15,000-\$199,999			\$	\$5,000-\$50,000
<b>Large Court:</b>	\$\$\$	\$250,000-\$500,000		<b>Small Court:</b>	\$\$\$	\$30,000-\$60,000
	\$\$	\$xxxxxx.xx-\$xxxxx			\$\$	\$10,000-\$30,000
	\$	\$xxxxxx.xx-\$xxxxx			\$	\$1,000-\$10,000

Requirement	Recommended Service Level
<b>Infrastructure</b>	
Internet	Critical
Networking (switches/routers, Firewalls), Virtual, Wireless, WAN, LAN, Middleware)	Critical
Active Directory/DNS/DHCP	Critical
Servers (local, virtual, File, Print)	Critical
Security Device- ATT Monitoring-Internal/IDS	Critical
Virus protection	Critical
Storage	Critical
Middleware	High
Back-up Appliance	High
Desktops (Local, virtual, thin client)	High
Load Balancers	High
Proxy's	High
UPS/Generator/ Power	High
Data center Cooling	High
Statewide Security Access parameters (All workstreams)	High
System Monitoring/Solarwinds	High
Spam filter	Moderate
Public Information Kiosks / Electronic signs	Moderate
Queueing system- Qmatic/Qflow	Moderate
Facilities automation	Moderate
Physical Monitoring-Temperature	Moderate
Helpdesk- IT Systems	Moderate

## ITAC Next-Generation Hosting Workstream

### Branch Comment on Next-Generation Hosting Framework Guide

All comments are verbatim unless indicated by an asterisk (\*).

	<b>Commentator</b>	<b>Position</b>	<b>Comment</b>	<b>Committee Response</b>
1	Kevin Lane / Alex Lesberg 4 <sup>th</sup> District Court of Appeal	NI	Overall comment about section 5.3. Since this is a framework/standards document, should we not remove mention of specific vendors?	The framework makes recommendations based upon the strategic and tactical plan and the likelihood for achieving the defined goals and objectives. These are not mandatory requirements but rather a common framework that can be leveraged to help individual courts identify some hosting solutions, or vendors that may be appropriate for their environments. Thus, the workstream did not incorporate revisions related to this comment.
2	Kevin Lane / Alex Lesberg 4 <sup>th</sup> District Court of Appeal	NI	<i>(Re: Sec. 5.4 Table headings)</i> This is the first time that this term "private data center" appears in this doc. Terminology should be consistent and should be defined. Should these headings match the defined data center types from section 5.1?	The workstream agreed with the commenter and has updated section 5.1 to clarify private data center options, providing further definition.
3	Kevin Lane / Alex Lesberg 4 <sup>th</sup> District Court of Appeal	NI	<i>(Re: Sec. 6.0 bullet #6)</i> This bullet is confusing. Is this referring to Microsoft as the preferred vendor? Or does this mean that Microsoft Office is the standard productivity software suite?	The workstream is recommending Microsoft as the preferred vendor in order to maximize overall benefit to the branch. No further revisions were incorporated.
4	Kevin Lane / Alex Lesberg 4 <sup>th</sup> District Court of Appeal	NI	* General editing suggestion: Remove "trial" from "trial courts"	The workstream agreed with the commenter and updated the document to reflect application to all courts. "Trial" was removed, as suggested.

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	<b>Commentator</b>	<b>Position</b>	<b>Comment</b>	<b>Committee Response</b>
5	Felix Castuera 1 <sup>st</sup> District Court of Appeal	A	Our court is on board with the recommendation to utilize cloud computing in the future. It makes sense for all courts to utilize other companies that offer cloud computing to minimize costs and at the same time improve services. The First District had implemented a light version of the proposed hybrid solution with Microsoft OneDrive. Our court still uses local servers, and at the same time, offers our staff the capability to save, access, and edit documents remotely through OneDrive.	The workstream supports this comment. No revisions were required related to this comment.
6	Jim Lin Information Technology Inyo Superior Court	NI	The major roadblock to implementing the aforementioned solutions is cost. We have 10 / 100 GB fiber running in our server closets, speed is not a hindrance. Cost also includes on prem storage of the 'e' initiatives. In one of our locations, we have abundant storage, but in another we have virtually 0 storage in case one location is lost, we will be dead in the water. Our court have 19 / 20 employees and moving to Office365 have been on my agenda for this court for past 9 months. The total cost to implement and yearly support is negligible compared to larger court's budget for an hour.	The workstream recognizes that many of the recommendations are not feasible in today's climate, due to budget and resource constraints. There will be impediments, but the intention is for the framework to provide court leadership with the foundation and guidance to move towards these strategic goals and objectives.  No action required; therefore, the workstream did not incorporate revisions related to this comment.

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	<b>Commentator</b>	<b>Position</b>	<b>Comment</b>	<b>Committee Response</b>
7	Jim Lin Information Technology Inyo Superior Court	NI	The end game of becoming an all-digital court is clear and I share those same sentiment as I stood in awe at Riverside's, Alameda's, and Yolo's courtrooms and how they have moved from dealing with paper to virtually paperless. Their move was precipitated in a large part with a new courtroom with newer equipment than the 7 – 8-year-old servers I am managing right now.	The goal is to have all courts and the branch to work toward implementing a Next Generation Hosting strategy as funding, budget and resources permit.  No action required; therefore, the workstream did not incorporate revisions related to this comment.
8	Chris Stewart Chief Technology Officer Sacramento Superior Court	NI	Two additional 'cons' for the table: Branch Data Center: Vendor Hosted (Current CCTC Model) (pg. 13 or 14):  1. AD: Users end up with separate AD accounts and passwords. AD trusts between hosted and local forests may prove to be problematic and tough to manage at a larger scale. 2. Local courts are limited to hosted environment limitations (e.g. lack of interior dynamic routing protocol and automated backup VPN solution)	The workstream agreed with comment #1. There is also an Identity Management Initiative that may help address some of these issues in the long term. The workstream incorporated the suggested addition into the document.  Comment #2 is a limitation of the current implementation not inherent in a vendor hosted solution. The workstream did not incorporate revisions related to this comment.